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SHELL SHOCK
AND ITS AFTERMATH

A Patient Weaving

SHELL SHOCK
AND ITS AFTERMATH

BY

NORMAN FENTON, PH.D.

ASSOCIATE PROFESSOR OF PSYCHOLOGY, OHIO UNIVERSITY; FORMERLY AT BASE HOSPITAL 117, A. E. F., AND WITH THE NATIONAL COMMITTEE FOR MENTAL HYGIENE; AUTHOR OF "SELF-DIRECTION AND ADJUSTMENT."

WITH AN INTRODUCTION BY

THOMAS W. SALMON, M.D.

PROFESSOR OF PSYCHIATRY, COLUMBIA UNIVERSITY. FORMERLY SENIOR CONSULTANT IN NEUROPSYCHIATRY, A. E. F., AND MEDICAL DIRECTOR OF THE NATIONAL COMMITTEE FOR MENTAL HYGIENE

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PREFACE

My interest in the problem of war neurosis (shell shock) goes back to early in 1917 when it was stimulated by the late Professor Elmer Ernest Southard of Harvard University. First as his student, and later as interne at the Boston Psychopathic Hospital, I had an opportunity under his inspiring guidance for contact with this problem under circumstances unusually favorable for study. In France, as assistant in Psychology to Professor Sidney I. Schwab, of Washington University, then Medical Director of Base Hospital 117, A. E. F., I had, in connection with regular work at the hospital, ample opportunity for first-hand study of war neurosis. The Staff of Base Hospital 117 were generous in discussion of these cases, and I am deeply indebted to the Medical Director, Dr. Schwab, and also to the Staff, among whom I wish to mention especially Doctors Thom, Gayle, Hall and Durkin. In 1919-20, I was enabled to conduct the first follow-up of returned A. E. F. war neurotics through the interest and generosity of the officers of the National Committee for Mental Hygiene, who made available approximately three thousand dollars for the work. Again in the summer of 1924, Dr. Frankwood E. Williams, Medical Director, made possible the working out of a second follow-up at the office of the National Committee for Mental Hygiene, the latter organization contributing at that time approximately five hundred dollars to the work.

In the writing of this book, I am indebted primarily to Dr. Salmon and Dr. Williams, of the National Committee for Mental Hygiene, for without their help and constructive criticism the work could never have been carried out. In addition to being generous with his time during the work, Dr. Salmon also read the manuscript of this book and made many suggestions which greatly improved its value. Colonel

Charles Lynch, Editor-in-chief, and Lieut. Col. Frank W. Weed, assistant Editor-in-chief of the official history of the Medical Department of the U. S. Army, were of great service, not only in making available such official data as were needed, but also in providing clerical assistance during my work in Washington, and sending to me by letter important and necessary information. I am grateful to the members of the Staff of the National Committee for Mental Hygiene for much help throughout this study, and especially wish to mention Doctors Douglas A. Thom and C. J. D'Alton, Mr. Paul O. Komora, and Miss Edith Furbush. I am indebted to the members of the Psychology Department of Stanford University, especially to Professor Lewis M. Terman, whose kindness to me and whose interest in this work has been of very great service. Professor Henry G. Mehrtens of the Stanford Medical School not only suggested many helpful methods of procedure during the study and read the manuscript in its entirety, but also his generosity and friendliness and his interest in the war neurosis problem were a great source of encouragement and inspiration. I am, moreover, grateful to my brother, Dr. Clement C. Fenton, for assistance in some of the tabulations and for reading part of the manuscript. Above all, I am indebted to my wife, whose encouragement, and patient clerical and editorial assistance, made possible the completion of the work.

N. F.

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INTRODUCTION

At least one practical method of offsetting a little the vast destructiveness of war is to examine minutely all its phases for knowledge that can be profitably employed in the tasks of peace. Like healing drugs prepared from noxious weeds or vaccines developed from virulent bacteria is the gleam of a new scientific fact discovered in war's dark night of suffering. The psychopathology of war constitutes a grim depth out of which little light might be expected to emerge. Some of the deepest wounds, severest crippling and most unendurable pain follow injury to those delicate mechanisms upon which mind depends. Study of distortions of thought and feeling produced by the exhaustion, trauma, horror, and fear borne by soldiers in the World War has given us invaluable confirmations of views shaped by the investigation of neuroses in civil life. In addition, it has provided us with new information that, but for the cruel experiments of the battle-field, might not have been available for at least a generation. This new information—useful alike in treatment and prevention—is the product of the intelligent, sincere, and patient research of men, like Doctor Fenton, who were not content to file for future reference half-completed observations made while the war was on, but had the vision to see that the most valuable facts are only to be discovered by a deeper search.

In this study of the subsequent experiences of a group of soldiers who had been treated for war neuroses in France, Doctor Fenton has made a unique contribution to our knowledge of the slow process of rehabilitation in disorders of emotional life and especially of the results to be expected from treatment. The careful, scientifically-planned "follow-up" of these three thousand patients was his own idea,

formulated, I have no doubt, when he lived with the same men at Base Hospital 117 in France. It is true, as Doctor Fenton says, that the National Committee for Mental Hygiene provided the funds required for the study but it was his tact, sincerity, and resourcefulness that made the work successful. The personal contacts that he established at La Fauche, when the patients, who constitute the "material" for the study, found in him an understanding friend, prevented his correspondence with them from being largely a one-sided affair. Possessed, therefore, not only of the requisite scientific training and grasp of the subject but a rare personal experience provided by his service in France, Doctor Fenton was equipped for an extremely difficult task which, as far as known, has not been carried out with any comparable group of psychoneurotic patients.

The scientific value of such a study is great. Too often the emotional reactions of human beings are examined in a single setting and under a particular kind of stress. As far as the circumstances permitted, Doctor Fenton has made his review a longitudinal one. Starting out with no thesis to support, he has shown the seriousness of any severe psychoneurotic manifestation and the persistence of a tendency to react unfavorably to adverse conditions even when the symptoms of the original neurosis have been successfully dealt with. On the other hand, he has shown a definite relationship existing between make-up, personal resources and access to treatment and complete rehabilitation that confirms a growing belief in the usefulness of adequate therapy and prophylaxis in psychopathic disorders. It is not the function of an introduction, however, to review or summarize, for those tasks logically follow rather than precede the reading of a book. It is permissible, nevertheless, to point out that this study, in addition to providing most interesting and useful sidelights upon a major medico-military problem, constitutes a praiseworthy guide for those who have the opportunity of studying other groups of per-

sons who have developed psychoneuroses and have been made the object of some more or less systematic efforts at treatment. In industry, the disabilities having their origin in *feelings of injury* exact a far heavier toll than those which are due to actual destruction of tissues. In numbers, they are to be counted by the hundreds of thousands and not by the tens of thousands as were the war neuroses in our military forces. The causes—psychological, physiological, and social—of these disabilities that decimate the armies of peaceful industry, their recognition when still susceptible of modification, and their practical medical and administrative management would have a flood of light thrown upon them were a group of psychoneurotic workmen comparable to these three thousand American soldiers studied as carefully and thoughtfully as Doctor Fenton has studied his ex-service men.

THOMAS W. SALMON.

Columbia University, New York,
July 15, 1926.

CHAPTER I

THE PROBLEM OF SHELL SHOCK IN THE A. E. F.

Wars may become agencies for the development of novelty, for good as well as for evil. The research and inventive genius of a people, deeply touched by national need, finds expression in various ways, technical, medical, and social; often, as in the World War, it is expressly subsidized for such purposes. Besides new technics for the treatment and control of disease or new ways of social service, each war brings forth new implements high in destructive power, new and more effective ways to maim and to kill. Liquid fire, Big Berthas, tanks, huge bombing planes, are a few of the contributions of technical science in the recent war to the art of warfare.

War, likewise, is an occasion for the development of new forms of misery and disease. In the great World War, no disease-entity offered more novelty to the medical corps of all armies than did the war neuroses, or, as they are frequently called in popular language, shell shock. The present war, remarked Salmon, is the first in which " . . . . the functional nervous diseases [shell shock] have constituted a major medico-military problem. As every nation and race engaged is suffering from these symptoms, it is apparent that new conditions of warfare are chiefly responsible for their prevalence."[1] Though the Russians, in their war with the Japanese, developed the first army medical service in which mental cases were treated by specialists, both at the front and upon return to the home country; still this service was primarily for insane soldiers, the functional neuroses not being especially significant. It may be,

[1] Salmon, Thomas W.: The Care and Treatment of Mental Diseases and War Neuroses (Shell Shock) in the British Army. Pub. by the War Work Committee, National Committee for Mental Hygiene, New York, 1917, p. 14.

of course, that the neuroses were not distinguished from the psychoses in previous wars. However, Read,[2] who has made a very careful study of the problem, says that ". . . . war neurotic states have an intimate relationship with the conditions under which this great war was fought—the enormously high explosives, special trench warfare, poison gases, and horrors that were not present to any extent in previous wars. It is stated that no war neuroses were observed in the Boer War, where the methods were so different, but some traces were seen in the Russo-Japanese War."

Worcester has discovered an interesting historical reference to what seems to be war neurosis (an hysterical blindness) in the writings of Herodotus, Book VI, section 117[3]. Of the Battle of Marathon, Herodotus writes: "The following prodigy occurred there. An Athenian, Epizelus, son of Cuphagoras, while fighting in the medley, and behaving valiantly, was deprived of sight, though wounded in no part of his body, nor struck from a distance, and he continued to be blind from that time for the remainder of his life. I have heard that he used to give the following account of his loss. He thought that a large, heavy-armed man stood before him, whose beard shaded the whole of his shield: that this specter passed by him and killed the man that stood by his side. Such is the account I have been informed Epizelus used to give." It is possible that the neuroses have been present in all the wars of history, but certainly never before in such overwhelming numbers as in the World War.

Salmon in his Report,[4] which was largely the foundation upon which the neuropsychiatric organization of the American Expeditionary Forces was built, brings out another historical aspect of the war neurosis problem. He said, in 1917, "There is statistical evidence which indicates that the insanity rate in the British army is less at the present time than it was in the first year of the war, and that it has not

[2] Read, C. S.: Military Psychiatry in Peace and War, Lewis, London, 1920, p. 143.
[3] Mental Hygiene, 1919, iii, 676-7.
[4] Op. cit., p. 14.

reached some of the high rates reported in recent wars. The high and constantly increasing rate for the war neuroses suggests that the latter disorders are taking the place of psychoses in modern war. How much this phenomenon is due to an actual change in incidence and how much to former errors in diagnosis cannot be stated accurately. There is a strong suspicion that the high insanity rate in the Spanish-American and the Boer Wars, and perhaps in earlier conflicts, was due in part at least, to failure to recognize the real nature of the severe neuroses, which are grouped under the term 'shell shock' in this war. *This may account for the remarkable recovery rate among insane soldiers in other wars.* It is certain that in the early months of the present war many soldiers suffering from war neuroses were regarded as insane and disposed of accordingly. When one remembers that the striking manifestations seen in these cases are unfamiliar in men to physicians in general practice, it is not surprising that some of the severer disturbances should have been interpreted as signs of insanity."

Though none of the symptomatic expressions of war neurosis was new, all having been noted by military surgeons in previous wars, still the great *frequency* of their occurrence in the World War was a decided novelty to wartime medical experience. Their study and observation have resulted in a vast literature attempting the description of all their phases. In 1917 I made a thorough first-hand review of the periodical literature in all languages which resulted in a bibliography of over two thousand titles on this subject.[5] A second review of the published materials, made by me in 1924, showed that by then this total had grown to at least three thousand articles and books. The war neuroses have been a tremendous influence in stimulating interest, not merely in the special features of this particular wartime medical problem but in the broader field of mental

[5] This bibliography of published articles through the year 1919 may be found in Southard, E. E.: Shell Shock, Leonard, Boston, 1920, pp. 905-82.

medicine itself. It is fair to say that there are now very many more physicians interested in the functional neuroses than ever before in history.[6] In the long run, a great wealth of new insights into human nature should be the outcome of this terrible and disastrous medico-military novelty.

To portray adequately the military history of war neurosis in this war would be a great and useful task. Aside from the military achievements of our army in the problem of war neurosis (the fact that at the time of the Armistice, war neurosis had ceased to be a serious or disproportionate source of loss of man-power in the A. E. F.), the scientific history of the development of the neuropsychiatric service is worthy of permanent record. For the success of the A. E. F. neuropsychiatric organization is an interesting historical incident in that it shows a remarkable triumph for the research technic when applied to a practical administrative problem. The A. E. F. organization for handling cases of shell shock was developed upon the basis of a careful analytic study of the objective facts of the problem, especially of the organization and research efforts of the Allied Armies, notably the English.

The documentary history of the A. E. F. neuropsychiatric organization begins really with the report by Salmon[7] on the methods used by the English armies to combat the serious military menace of shell shock. Dr. Salmon, then a member of the Staff of the Rockerfeller Foundation, went abroad shortly after America's entrance into the war (he sailed in May and returned in July, 1917), and made a first-hand study of war neuropsychiatric problems in England.[8] On the basis of this report the organization of the Neuropsychiatric Division of the A. E. F. was developed. Inasmuch as he was (from December 1917 till the spring of 1919)

[6] Training centers were established at Boston, New York, Philadelphia, and elsewhere to give intensive courses in neuropsychiatry to prospective officers in the U. S Army and Navy. At the close of the war there were 750 neuropsychiatrists in service, 150 more ready to be called and 140 awaiting consideration.

[7] Referred to previously.

[8] As representative for the Committee on Furnishing Hospital Units for Nervous and Mental Diseases to the United States Government (later the War Work Committee) of the National Committee for Mental Hygiene.

Senior Consultant in the Division of Neuropsychiatry in the army abroad, Dr. Salmon was able actually to organize and to direct neuropsychiatric work of the army in France on the basis of the scientific premises which his discussions with colleagues in America and with experts of the Allied Armies, his knowledge of the literature, and his direct study in England had given to him.

The organization developed in the A. E. F. was not given adequate opportunity to function in its entirety until after the St. Mihiel Drive in September, 1918. Previously to that (the American soldiers were in battle from Flanders to Alsace-Lorraine), the organization could not function effectively, nor could any other have done so. Once military conditions were such that the American Army was engaged largely as a unit, as it was from the St. Mihiel Drive until the Armistice; then the neuropsychiatric organization functioned as a whole, and very soon displayed its adequacy in caring for cases of war neurosis.

The A. E. F. organization for caring for war neurosis cases, to be described here very briefly, was perhaps the best organized and the most carefully recruited of all those in the armies at war. The last to be organized, the first to be perfected in advance by research and investigation, it proved its value almost at the outset under the battle conditions for which it was prepared. It should be borne in mind that in other armies it took years of bitter experience and serious military loss before any special organization was perfected to handle war neuroses, and that even at the time of the Armistice, the A. E. F. organization was the only unified service of the sort in any army. Our debt to the medico-psychological personnel of the Allies, however, is indeed a great one. By their generous assistance and ever-ready cooperation they made it possible for the United States Army in the field to minimize a serious danger, not only to man-power and morale in a military sense, but also to the many soldiers of the A. E. F. as individuals, who, being

treated early by specialists, were saved from a life of misery and ineffectiveness.

The A. E. F. organization for handling war neuroses is given briefly in Fig. 1. It should be realized that the problem centered largely in the attempt to treat these cases at

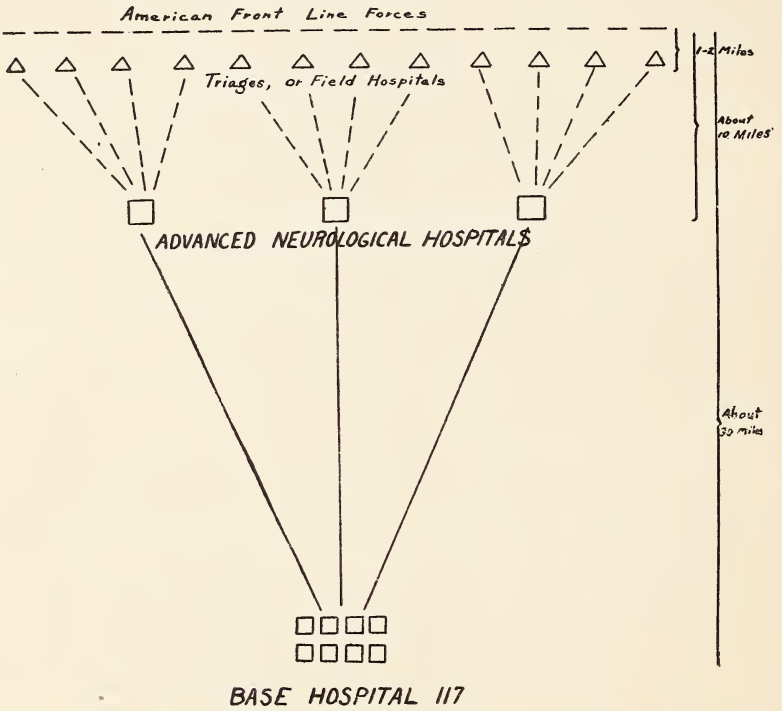


Fig. 1.—Plan for handling war neurosis cases used in the A. E. F.

the front or as near the front as possible.[9] It had been noted that once the "soldier" attitude was released in a patient by delay in treatment and hospitalization away from the actual fighting situation, potential first-line material was lost to further army usefulness because of the "softening" effects of the environment upon his morale, and the setting or fixating of the symptoms. For, the more or less

[9] Similar organization to the one here described of the A. E. F. had been developed in other armies in part. For instance, Russel gives some statistics of the efficacy of the forward-area hospitals for four months—April to July 1917—wherein 938 cases of 1341 or 79 per cent were returned to duty—of which but 44 or 4.6 per cent were "return" cases. (Jour. Abnorm. Psychol., 1919, xiv, 27-33.)

fluid emotional state of the acute neurosis case can be turned by psychotherapy and rest to a "return-to-duty" attitude, but through neglect and unwise sympathy this state may develop into a chronic neuroticism, usually incapacitating the man for further service at the front. The procedure which all adequate scientific analysis had de-

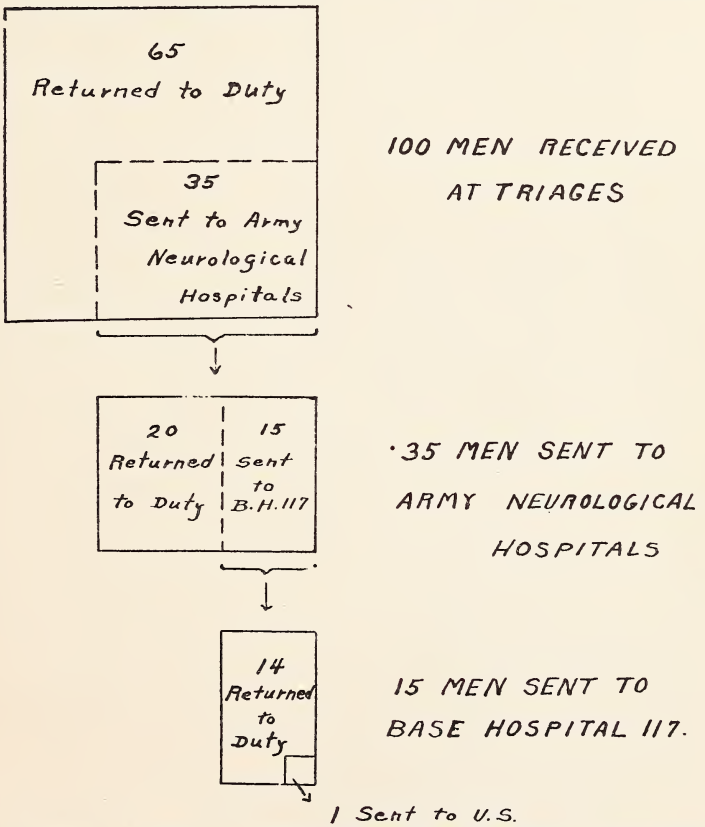


Fig. 2.—Outcome of each 100 psychoneurosis cases occurring at the front. (After Salmon.)

fined, was to treat these cases in the forward areas, and, if possible, to keep them there until cured. *The problem for the A. E. F. consisted largely in the development of this idea into a workable administrative scheme.*

Thus, according to the A. E. F. plan of organization, put into action at the St. Mihiel Drive, milder cases of exhaus-

tion, fear, and shock, were handled by specialists attached to the combat divisions in the field hospitals just back of the lines, and 65 per cent (see Figs. 1 and 2) of the 7500 cases which developed were returned to the front in a short time, often after a few hours. Patients who were more seriously affected were sent back to the Advance Neurological hospitals (which were in the zone of active warfare). Here they remained from a few days to two weeks, and from these hospitals 59 per cent of the patients were cured and sent forward. Severe cases which were resistive to treatment were sent to Base Hospital 117. At the Advance Neurological hospitals, patients with psychoses (mental diseases) were given emergency treatment and evacuated to special collecting stations in the Base Hospitals nearest the front. These Advance Neurological hospitals were *attached to Field Armies,* not to the Services of Supply—an important distinction. Both before and after the St. Mihiel Drive, patients were also sent to Base Hospital 117 from other base hospitals in France. In this connection it is interesting to add that there was a notable difference in the attitude towards cure, and too, the prognosis, of patients sent down from *special* forward-area hospitals to Base Hospital 117 and those patients who came from other base hospitals where they had been cared for or neglected by men who were unfamiliar with the A. E. F. point of view[10] regarding the war neuroses and their treatment. Patients sent to the Hospital from the forward-area service were cooperative and already on the way toward recovery. In the others, some of whom had made quite a tour of France en route to the Hospital, their symptoms were usually more fixed, invalidism established, and their attitudes tended to be resistive.

At the time of the Chateau-Thierry fighting, cases of shell shock constituted, according to various estimates, 20 per

[10] For a more complete discussion of the A. E. F. point of view, see Schwab, S. I.: Arch. Neurol. and Psychiat., I, 579-89. Dr. Schwab was an important contributor to the successful teaching of this point of view to the officers of the Neuropsychiatric Division in France.

cent[11] of the base hospital admissions. The hospital organization, as shown in Fig. 1, was incomplete at the time of this earlier fighting, not including the advance neurological hospitals and was accordingly very inferior to the organization after the St. Mihiel Drive. Cases of war neurosis were not then sent directly to neuropsychiatrists in the specially organized base hospital, but to base hospitals

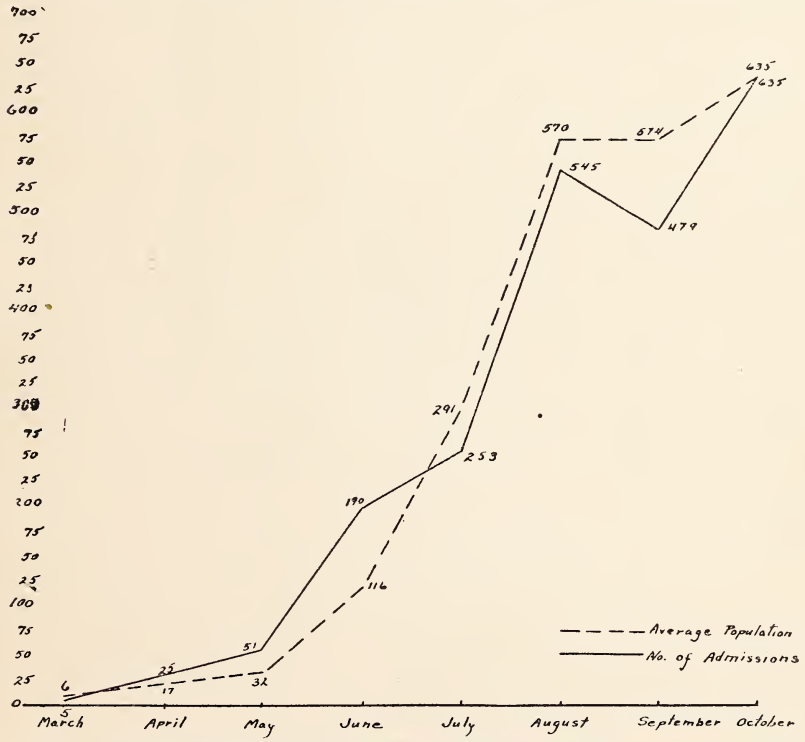


Fig. 3.—Total population and admissions each month, Base Hospital 117.

all over France, and likewise the field hospital service was inadequate for the problem. Hence, during the early fighting a relatively small percentage of patients were returned to duty. Many of the patients were neglected in the forward areas and sent down to general hospitals, where, usually, inadequate service awaited them, and often chronic invalidism resulted. Except for the employment under

[11] Schwab: ibid., p. 585.

poor conditions for success of division consultants in psychiatry at the Field Hospitals, this condition resembled that of the medical service of all armies in the beginning of the war, when practically no organization was developed to handle neurosis cases.

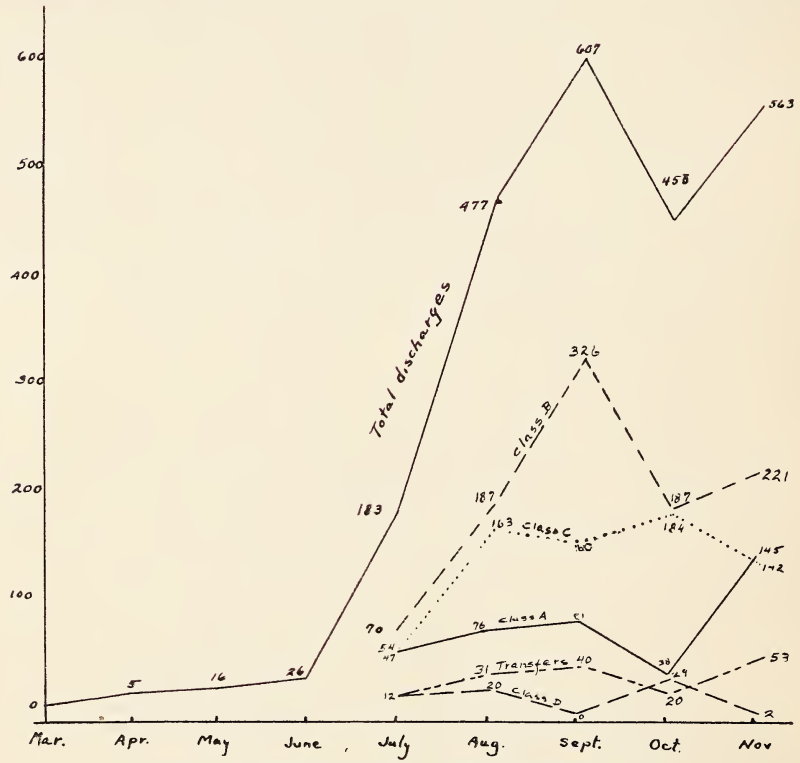


Fig. 4.—Discharges from Base Hospital 117.

As can be recognized from Fig. 1, when the unified American Army went into battle, cases of shell shock were carefully sifted from the time of initial symptoms to their arrival at a special base hospital. Only the 1 per cent of Class "D" cases[12] sent to America were entirely lost to the military service in France, and only 5 per cent were permanently relegated to service behind the lines.

[12] Military classifications used in the A. E. F. were "A" full duty, "B" four months behind the lines then full duty, "C", permanently behind the lines, "D" return to the U. S.

Fig. 2 shows a very high percentage of return-to-duty among cases of war neurosis developed in the A. E. F. during the period of extraordinary hard fighting. But what

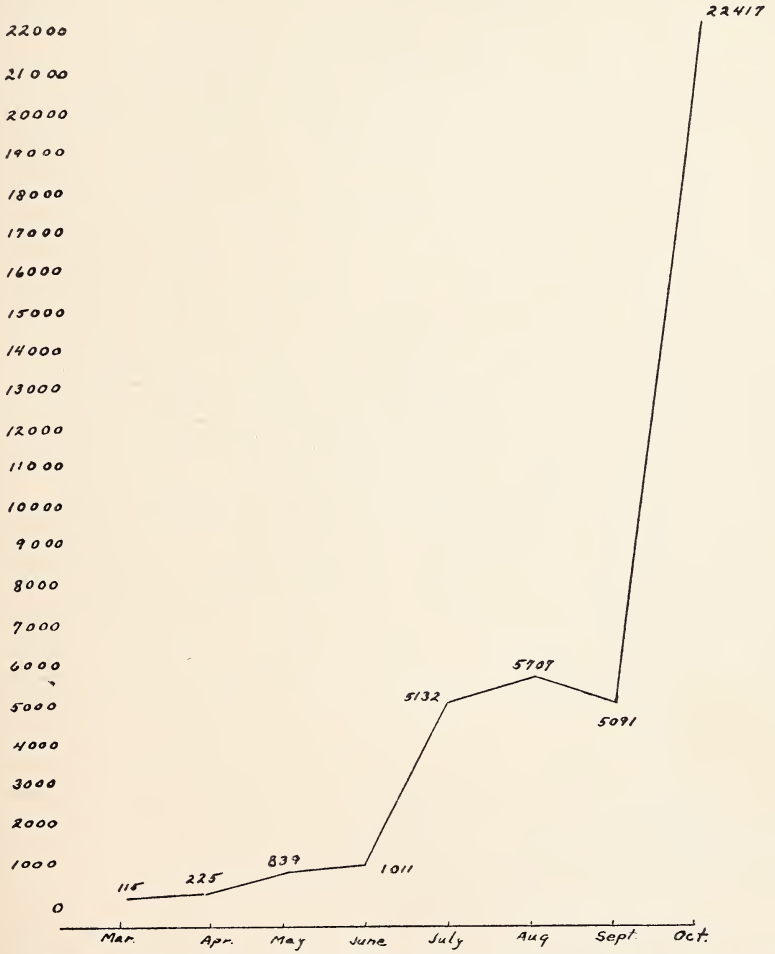


Fig. 5.—Number of men killed in battle each month. (After Ayres.)

check is there to show that there was not also a tremendous increase in the incidence of war neurosis? Figs. 2, 3, 4, 5, and 6 show that not merely was the *percentage of cure vastly greater* at this time than during the earlier period of the war, but that the *proportional admissions* to Base Hospital

117 were *much less.* This last fact is brought out strikingly by the figures for the *average population* of Base Hospital 117 and the *admissions* to Base Hospital 117 during August, 1918 and October, 1918; August being before the A. E. F.

Fig 6.—Patients admitted to Base Hospital 117 in relation to the number of men killed in battle from month to month. The figures on the chart represent the number of admissions for each 100 battle deaths.

organization as described above was perfected and October being thereafter. It is fair to state that there were at least five times as many troops used at the front in October as in August, and perhaps twenty times as many that were operating with Base Hospital 117 as a functioning base.[13]

[13] It is obvious that for troops operating on the Flanders, the Somme, the Aisne fronts, Base Hospital 117, located near Neufchateau and in the department of Haute Marne, was not a functioning base. For major operations after the St. Mihiel Drive, however, Base Hospital 117 was a functioning base very advantageously situated.

Yet the average population of Base Hospital 117 was but 10 per cent greater during October than during the month of August. Likewise, the increase in admissions during October over August was only 16 per cent. From the standpoint of loss of man-power, it should be added that the increase of the loss through battle casualties in October over that of August was about 300 per cent.

In Fig. 6 is found a comparison of battle deaths[14] and the number of patients admitted to Base Hospital 117, month by month. Comparing the rates for June (when about 85,000 Americans were used at the front[14]) and for August (when 270,000 men were used there) with the rate for October (when 1,450,000 were used at the front) we find a decrease from approximately 20 per cent in June (that is, the number of admissions to the Hospital was one-fifth the number of men killed in action) and 10 per cent in August (one-tenth as many hospital admissions as battle deaths) to about 3 per cent in October, or about one-thirtieth the number of battle deaths. Viewing again Fig. 2 and remembering that in October, Base Hospital 117 got the same proportion of all neuroses sent to base hospitals as in earlier months, we get a vivid demonstration of how much less significant the war neuroses in the A. E. F. had become by then as a cause for loss of man-power. Other factors may have aided in this result, for instance, the increasingly effective work of the examining neuro-psychiatrists and psychologists in the camps in America; still, it is the opinion of those competent to judge that when the neuropsychiatric organization as planned was at work with a unified American Army, the war neuroses ceased to be the dangerous military menace they had been earlier in the history of the A. E. F. military operations, and that this organization was of primary importance in lessening their seriousness. General Pershing recognized this in a fine tribute to the medical officers engaged in this work.

[14] Totals for battle deaths were obtained from figures given in Ayres, L. P.: The War with Germany, Washington, U. S. Printing Office, 1919, p. 120. Figures for the size of the American Army at the front were found on page 105 of the same book.

CHAPTER II

BASE HOSPITAL 117, A. E. F.

The official history of the A. E. F. neuropsychiatric organization, now in preparation, will give in complete form the account of this interesting medico-military organization. Here we are concerned only with a brief outline of the total organization, our interest centering in the special base hospital for these cases. Having placed Base Hospital 117 in the scheme for organization of the A.E.F. Neuropsychiatric Division we will now turn to a more detailed description of it. For, since a large part of our present interest is in the later civilian readaptation of the patients of this hospital, its location, character, and appearance, and the quality and training of its staff, have an intimate relation to its effectiveness as a curative institution, and hence to the subsequent history of the patients who received treatment there. A brief description of these facts is then pertinent to our subject.

Salmon[1] outlined in his report the organization of this type of special hospital. He said: "The base upon which each army rests should be provided with a special base hospital of five hundred beds for neuropsychiatric cases. Three years' experience in treating these cases in general hospitals in England and France amply demonstrates the need for such an institution. Few more hopeful cases exist in the medical services of the countries at war than those suffering from war neuroses grouped under the term 'shell shock' when treated in special hospitals *by physicians and nurses familiar with the nature of functional nervous diseases and with their management.*"

As soon as the definite plans for this special base hos-

[1] Op. cit., p. 50.

pital, as outlined by Salmon, had been accepted by the War Department, efforts were begun at once to recruit and organize the necessary personnel. Dr. Frankwood E. Williams, of the National Committee for Mental Hygiene,[2] made a careful search among the various state and private institutions for nervous diseases throughout the country, in the effort to obtain only those men and women whose training and experience qualified them for this branch of the service. When recruited, the medical officers were sent to special hospitals in England and America for intensive training in neuropsychiatry until such time as the hospital in France had begun to operate. The enlisted men and nurses were assigned to duty in neuropsychiatric wards in the camps and hospitals in America until March, 1918, when the unit was mobilized. The unit arrived in La Fauche, France, June 11, 1918, and then the history of Base Hospital 117 as an organization really begins. The hospital had been in operation before this, but with a small staff and few patients.

Located at La Fauche, a small village in the foothills of the Vosges Mountains, on the main highway between Chaumont and Neufchateau, the hospital, one of the ordinary American "hut" type scattered throughout France, was during its early days about thirty miles from the front line. This area—called the Advanced Sector of the Service of Supplies—was frequently used for the final training of troops on their way to the front. Together with divisions in training nearby, there was a constant movement of troops passing by on their way to and from the front line. A station on a railroad, connecting with Toul, Nancy, and Verdun, and forming one of the main links in the American lines of communication, was within half a mile of the hospital. The important places bordering the American front could also be reached in a few hours by motor, as a *route*

[2] Dr. Thomas W. Salmon was Medical Director of the National Committee for Mental Hygiene before being commissioned in the Medical Reserve Corps of the Army in September, 1917. During his absence Dr. Frankwood E. Williams was acting Medical Director, except during his period of active service at the Surgeon-General's office in Washington.

nationale passed by the hospital and ran parallel to this railroad.

The village of La Fauche, consisting of forty odd houses, is situated on a hill above the plain where the hospital was built. The site of the hospital, besides having the obvious military advantage of its convenience to the American lines as they were originally located, was also exceptionally well chosen from the standpoint of natural scenery. Haute Marne, in which La Fauche is located, is one of the old sections of France and contains many picturesque remains of former times. A ruined castle on a height overlooking the hospital was erected in about the year 1100 by the Barons of La Fauche, and the little village of Domremy, the birthplace of Joan of Arc, is only about twenty miles or so away. This delightfulness and its loneliness, as there were no other hospitals or large towns in the immediate vicinity, made the location of Base Hospital 117 an excellent one and aided materially in the treatment of the war neuroses cases sent there.

When the American troops were sent to the front in great numbers early in the summer, the needs of the hospital greatly increased. Originally a camp hospital of about three hundred beds, it rapidly grew to a capacity, including tents, of about twelve hundred. Likewise, the necessity for facilities other than those afforded by the main group of buildings soon became apparent. The first addition to the hospital was a country house (the "officers' chateau") in a wood about a quarter of a mile away. This was opened as a ward for officer-patients who had recovered but who needed a short period of convalescence before return to duty. In this more restful milieu, away from the acute cases which filled the barracks-wards at the central group of buildings, these officers could get better hold of themselves and regain that composure and self-confidence which are so imperative a need to one again to assume responsibilities.

Some deserted French barracks across the meadows

about one-half a mile from the hospital were taken over about August, 1918 and converted into a convalescent camp. The capacity of this place was one hundred and twenty-five. Those patients who had recovered from their symptoms were assigned there before being sent back to duty. Its routine consisted of daily calisthenics and drills. Any man who redeveloped his symptoms was returned to the hospital ward from which he came. The purpose of this place, like that of the "Officers' Chateau," was to give the men an opportunity to get hold of themselves and to fall back into military routine, before being sent back to their organizations or assigned to duty elsewhere.

In connection with the problem of occupational therapy, Salmon[3] wrote: "Second in importance only to the general psychological control of the situation in functional nervous diseases is the restoration of the lost or impaired functions by reeducation. None of the methods available for reeducation are so valuable in the war neuroses as those in which useful occupation is employed as the means for training. Reeducations should commence as soon as the patient is received. Thought, will, feeling, and function have all to be restored, and work toward all these ends should be undertaken simultaneously. Nonproductive occupations are not only useless but deleterious. The principle of 'learning by doing' should guide all reeducative work. Continual 'resting,' long periods spent alone, general softening of the environment, and occupations undertaken simply because the mood of the patient suggests them, are positively harmful, as shown by results obtained in those general hospitals and convalescent homes in which such measures are employed."

The outcome of these suggestions was singularly successful. Workshops were organized and directed by a group of civilian aides trained in the therapeutic application of work and experienced in the application to actual cases of principles outlined by Salmon. The equipment call-

[3] Op. cit., pp. 52-53.

in the original plan was not obtained, as the great need for munitions at the time necessarily limited the amount of freightage allotted to such special hospital apparatus. The work developed rapidly nevertheless, apparatus and other necessaries being made from materials found about the hospital. It grew like many other phases of the hospital work, and very shortly had a separate building of its own.[4] Various types of manual work and interesting art and craft work were taught the men, which served to keep them healthfully busy and to keep their minds as well as their hands occupied.

Another important phase of the hospital's therapeutic effort was farm work. There was a considerable acreage surrounding the hospital available for cultivation; and agricultural implements and seeds were brought over from America by the original unit. In the summer and early fall, numerous patients were assigned to the farm. Building the roads about the hospital served also as an excellent means for keeping the men occupied.

So much for a description of the institution in which the shell shock cases were handled. A summary of the data obtained from a statistical study of the facts contained in clinical histories of the cases themselves would answer many problems of the war neuroses. Especially does a numerical study of the Base Hospital 117 cases offer valuable data in this connection, because the great majority of them were the typical neuroses such as occurred in all the armies at war. The information obtainable from a gross study of such an unselected group of cases as *all the psychoneurosis patients* sent to La Fauche is therefore highly significant in throwing light upon many phases of the neurosis problem previously inadequately studied from a statistical standpoint. At present there is difference of opinion regarding many questions, such as, for instance, whether tial neuroticism entirely explains the development

[4] For details see Schwab, S. I.: Experiment in Occupational Therapy at Base A. E. F., Mental Hygiene, 1919, iii, 580-93. The frontispiece of this book from this article by permission of the Editor of *Mental Hygiene.*

later under war conditions of neurotic symptoms; whether the social and intellectual status of war neurosis victims (as indicated by their educational achievement and pre-war occupation) tends to be higher or lower than the average for an equal group in the army at large; whether the proportion of officers is greater than that for enlisted men so affected; and numerous other questions of this sort. The greatest factor in determining the present indefiniteness of knowledge about the type of individual who developed a war neurosis is the tendency to arrive at opinions on the basis of observations unsupported by tabulated data. This error may be due to the lack of adequate facilities for such work, the imperative needs of war leaving little energy and less means for purely research activities.

Likewise, to follow up this group of typical neuroses back into civilian life in America after the war would throw much light upon the social outworking of war neurosis—the carry-over into civilian life. The study to be presented here describes such a follow-up. The men of the Base Hospital group were studied first in 1919-20 (a year or so after discharge from the army) and then again in 1924-25 (six years after returning to America). The data obtained in these studies will be treated for the purpose of getting some concrete facts regarding the aftermath of war neurosis.

CHAPTER III

DESCRIPTION OF A TYPICAL GROUP OF MEN WHO DEVELOPED WAR NEUROSIS

Introductory

The study to be presented in this chapter arose originally as somewhat of a military necessity in the American Army abroad. As Base Hospital 117, A. E. F., was the principal center for training neuropsychiatric personnel for the care of war neurosis cases, there were constantly passing through the hospital scores of medical officers sent there for instruction. It was conceived by me in the fall of 1918,[1] that a scientific summary of the clinical material at La Fauche would be valuable in facilitating among these student-officers a more concrete understanding of the war neurosis problem. The material to be presented here is the result of this inquiry into the make-up of the Base Hospital 117 patients made in France, and of later studies carried on in the United States in 1919 and 1924. It is a description of the characteristics—physical and mental, military, and social—of men in the American Expeditionary Forces who developed neuroses and were sent to the only special base hospital in France for the treatment of war neuroses. The original tabulation was done over a period of several months by a group of well-educated patients under my supervision; and later was repeated with other clerical assistance in the archives of the Adjutant-General's office,[2] at Washington. The facts and figures were obtained from the

[1] Acknowledgment is here made to Dr. S. I. Schwab, Medical Director of Base Hospital 117, and to Dr. D. A. Thom, acting Medical Director of the hospital during the absence of Dr. Schwab, for permission to do this work and for cooperation in aiding its accomplishment.

[2] To Colonels Lynch and Weed of the United States Army Medical Corps, both editorial chiefs of the U. S. Surgeon-General's Medical History of the War, grateful acknowledgment is made for their cooperation and interest in this study while it was in process. Such material herein as is considered serviceable by the editors will be incorporated in the official history of the A. E. F. Neuropsychiatric Organization.

clinical histories written by ward surgeons. The cases considered in this summary include, of course, only cases diagnosed as psychoneurosis.

Medico-Military Considerations

(a) A. E. F. Organizations Represented by Patients.—Among the admissions to the hospital were men from every division used at the front. In fact, by studying the organizations to which the men were attached and the dates of their admission to the hospital one can learn roughly the order in which General Pershing used his troops. The patients of the late spring of 1918 were from the Regular Army and the National Guard, from the 1st, 2nd, 26th and 42nd divisions. These men had been in France during the winter and were among the first Americans to take their places on the fighting line. Later, as other units came over and were used at Chateau Thierry and elsewhere, the admissions to the hospital included individuals from them. Likewise, some men were sent to the hospital from units in the Service of Supplies.

(b) Proportion of Officers and Men Admitted.—In considering the question of whether (on the basis of the Base Hospital 117 figures) officers in the American Army were subject in greater proportion to the development of war neurosis than were enlisted men, it is interesting by way of comparison to note the proportions of officers and men so affected in the English Army. "The ratio of officers to men at the front is approximately 1:30. Among the wounded it is 1:24. *Among the patients admitted to the special hospitals for war neuroses in England during the year ending April 30, 1917, it was 1:6.*"[3]

The figures for the Base Hospital 117 cases are shown in Table I.

The percentage of the hospital's total admissions of psychoneuroses patients who were officers was 10.28 per cent. In the War Department's Annual Report for 1918, Volume

[3] Salmon, T. W.: Report; cited above, p. 29.

TABLE I

OFFICERS		ENLISTED MEN	
RANK	NUMBER	RANK	NUMBER
Colonels	4	Privates	1880
Lt. Colonels	3	Corporals	284
Majors	8	Sergeants	187
Captains	45	Cooks, Wagoners	19
First Lieut.	114	Buglers, Musicians	20
Second Lieut.	102	Mechanics	20
Total	276	Total	2410

I, the census of the army on June 30, 1918 is given as 162,870 officers and 2,056,815 enlisted men. That is, 7.34 per cent of the army were officers, or there was one officer to 13 enlisted men. Colonel Ayres, Chief of the Statistics Branch of the Army, reported a smaller proportion; he said: "In the American Army there is one officer for each 20 men."[4] This gives 4.76 per cent officers in the army as a whole. Ayres[5] also states: "The infantry soldier was trained in the division, which was our typical combat unit. In the American Army it was composed of about 1,000 officers and 27,000 men." The percentage of officers according to this would be 3.57 per cent. The Base Hospital 117 statistics give 10.28 per cent of total admissions as officers, or roughly one officer to nine enlisted men. The proportion of officers to men in the army, then, is variously estimated as follows:

Percentage of officers in the army (1918 census)..... 7.34 per cent, or 1 officer to 13 enlisted men.
Percentage of officers in the army as a whole (Ayres)..... 4.76 per cent, or 1 officer to 20 enlisted men.
Percentage of officers in a combat division according to Ayres.. 3.75 per cent, or 1 officer to 27 enlisted men.
Percentage of officers admitted to B. H. 117.....10.28 per cent, or 1 officer to 9 enlisted men.

The conclusion to be drawn from these figures is that there was, estimated from the Base Hospital 117 admissions, a greater proportional tendency to the development of war neurosis among officers than among men in the

[4] Ayres, L. P.: The War with Germany, Wash., Gov't Printing Office, 1919, p. 29.
[5] Ibid., p. 25.

A. E. F.; the proportional liability to the development of a neurosis would be about 1.5 to 1 according to War Department 1918 census figures, more than 2 to 1 according to Ayres estimate of the total army, and about 3 to 1 according to his proportions for combat divisions.

(c) Relative Incidence Among Drafted Men and Volunteers.—One would anticipate a higher incidence of war neurosis among drafted troops than among volunteers; for presumably the latter were eager to go to war; whereas the former, the "passive patriots," having less positive impulse toward war, were more likely to succumb to its strains and stresses, more eager to find ways out of danger. Freud,[6] for instance, states "The national army was therefore the condition and fruitful soil for the appearance of war neuroses; they could not occur in professional soldiers, or mercenaries." As a matter of fact, the total number of volunteers (these were from Regular Army, Marine, or National Guard units) admitted to Base Hospital 117 was 1628; the drafted men numbered 937. Of course but a small part of our volunteer army was of the professional soldier class; studies in other armies, however, indicate that the professional soldier was also liable to develop a war neurosis.

The greater number of volunteers admitted is explained in part by the fact that volunteers were used at the front much more extensively than the drafted men, because of the earlier arrival of the Regular Army and National Guard Divisions in France. Toward September, 1918, when the number of drafted divisions used at the front was greater than those composed of volunteers, the total of admissions from the latter group increased greatly; in fact, in the month preceding the Armistice, there were 237 admissions of drafted men as opposed to 172 of volunteers. It must be remembered that replacements of early losses in the Regular Army and National Guard Divisions were chiefly by drafted men.

[6] Introduction to volume II of the International Psychoanalytic Library, p. 3.

A large number of volunteers spent part of the winter of 1917-18 in France. Some of the severely neurotic patients said that they first felt themselves "slipping" when drilling and maneuvering under the cold, wet, and exhausting conditions of the winter in France. The drafted divisions and replacements first started to cross the ocean about January, 1918, the months of April, May, June, and July seeing them arrive in greater numbers, and as the summer wore on, their number in France increased rapidly. Figs. 8, 9, and 10 give the sources of the army, the total number drafted month by month and the number sailing each month for France, respectively. Fig 7 shows the size of the

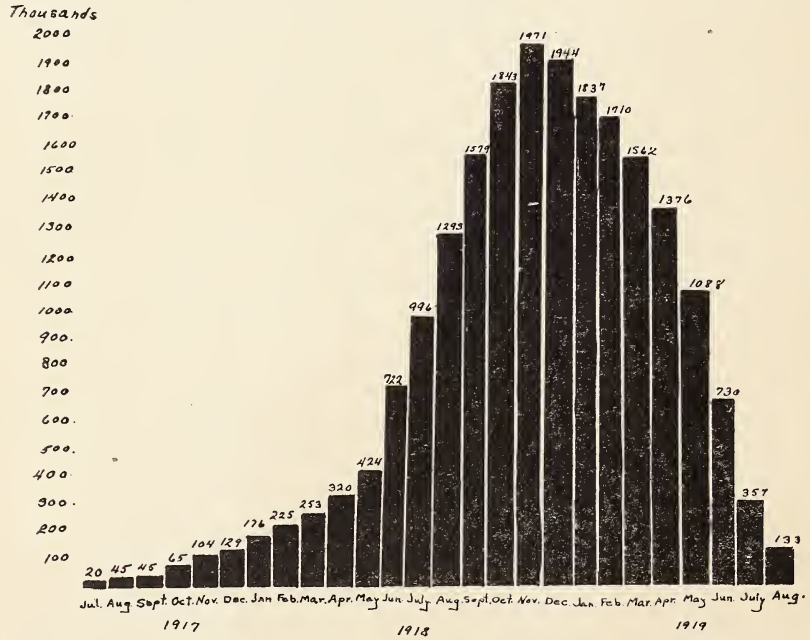


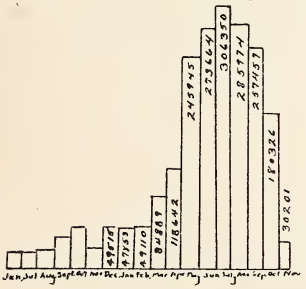
Fig. 7.—Thousands of soldiers in the American army on the first of each month. American Expeditionary Forces. (After Ayres.)

A. E. F. on the first of each month. Ayres[7] states: "The average American soldier received six months of training in this country before he sailed for France. After he

[7] Ayres, L. P.: Op. cit., p. 25.

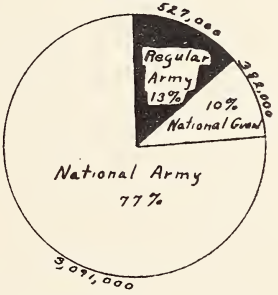
landed overseas he had two months of training before entering the battle line. The part of the battle line that he entered was in a quiet sector and here he remained for one month before going into an active sector and taking part in hard fighting." Thus, until August, 1918, the burden of

Fig. 8.



Men Sailing Each Month To France
After Ayres

Fig. 9.



Sources of The Army
After Ayres

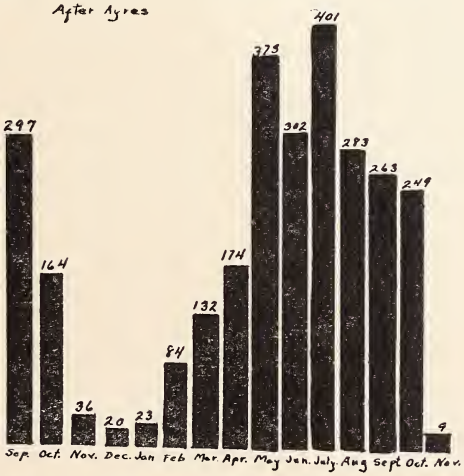


Fig. 10. Thousands of men drafted each month.

the fighting fell upon the shoulders of the divisions consisting of men who had volunteered. After that time the drafted units and replacements shared with them the brunt of the fighting.

Other military facts enter to explain these figures further. First, a point that must be mentioned in connection with the actual engagement of troops is that when the drafted divisions went to the front in great numbers, the type of fighting had changed, the Allied armies were everywhere victorious, and consequently, their morale greatly exceeded that of the Germans. The tendency to the development of neuroses is much greater in a defeated, dispirited, tired army, or one under artillery bombardment and forced to remain stationary in trenches, than in troops moving forward, taking prisoners and capturing towns and stores of munitions. In an editorial in Lancet,[8] it is remarked: "Relatively unknown among the members of the original expeditionary forces; they (cases of shell shock) were seen in greater quantities during the stationary warfare, in certain batallions as compared with others, at certain places rather than others, and with the big and successful movements of the summer and autumn of 1918 they were once more at a minimum."

Neyman[9] reports that he saw no mental cases at the German hospital where he was during the early period of the war until the Battle of the Marne, when the German advance was stopped. Likewise, the percentage of cures increases in the victorious army. Brown[10] found an increase of 21 per cent during the Cambrai "push" of November and December, 1917, in the British troops, or a total return to duty of 91 per cent, the general average being 70 per cent.

Second, and most important, the military explanation is found in changes in the organization of the Neuropsychiatric forces[11] at the time of the later engagements of St. Mihiel and the Argonne. By that time, the advanced neurological hospitals were functioning and the great majority of neurosis cases were handled and returned to duty from these units just back of the lines. Consequently Base Hos-

[8] Shell Shock and Cowardice, Lancet, 1922, i, 390.
[9] Some Experiences in the German Red Cross. Ment. Hyg. 1917, i, 392-96.
[10] Lancet, 1919, i, 834.
[11] See Chapter I for further discussion of the A. E. F. neuropsychiatric organization.

pital 117 did not receive the same high percentage of cases which developed at the front that it did before this organization was developed.

A third reason, and probably the most cogent, for the disproportion of volunteers admitted, was the fact that the thorough neuropsychiatric and psychological examinations were not given to many of the troops that left for France in the summer of 1917. Thousands of potential war neurosis cases were eliminated later on by these means; one estimate[12] places the total at 10,728 men rejected for neuropsychiatric disorders. In the course of the long months of training in the cantonments in America there were many drafted men who developed neuroses and were subsequently referred to neuropsychiatrists in these camps and hospitalized or discharged. Embarkation camps contributed a considerable number of neuroses. Many of this type were also permanently detailed in America, where they were given shorter hours and lighter work, and the problem was solved for them in this way. An experienced Canadian observer[13] estimated that the American Expeditionary Forces avoided 40,000 cases of neuroses due to the weeding out of the unfit by the careful neuropsychiatric and psychological examinations made in the camps in America.

Incidentally it is pertinent to add that there were a smaller percentage[14] of desertions among the drafted men, though common sense would tend to predict a higher percentage of desertions among them than among volunteers. It is unquestionably true that the careful neuropsychiatric examinations made in America screened the army from this sort of difficulty. Other interesting statistics[15] have been worked out by the army authorities which give further credit to the efficiency of the neuropsychiatrists and psychologists in the camps in America. The annual

[12] Figures from Salmon, T. W.: Psychiatric Lessons from the War. Trans. Am. Neurol. Assn., 1919, reprint, 3 pages.
[13] Farrar, C. B.: Neuropsychiatry in the American Army, Can. Med. Quart., 1919, pp. 228-33.
[14] Ayres: ibid. p. 17.
[15] Figures from articles by Furbush, Edith M.: Ment. Hyg., 1917, 1, 406-8; and Furbush, E. M., and Salmon, T. W.: Ment. Hyg., 1919, iii.

"mental alienation" rate in the American Expeditionary Forces to June 30, 1919 was 160 per 100,000. At the Mexican Border in 1916 (when no thorough neuropsychiatric or psychological examinations were given to recruits) though the men were under much less strain than was the army in France, the rate was 300 per 100,000. Suicides in the American Expeditionary Forces were 94 in all, or 4.7 per 100,000. The rate for the Regular Army in the peace times of 1915 was 53 per 100,000. There were ten legal executions[16] in our army in France and 1700 men returned to the United States as regular prisoners, less than one-tenth of 1 per cent. In the Regular Army of 1915, 12 per cent of the personnel received dishonorable discharge or were deserters. At the same rate in the American Expeditionary Forces, there would have been 240,000 men in jail or deserters. It is pertinent to add that 80 per cent of the prisoners in the prisons of the Regular Army of 1915 were found upon careful mental examinations to be psychopathic.[17] These figures for the American Expeditionary Forces, under conditions of active and terrible warfare on foreign soil, are a striking achievement for military mental hygiene.

(d) Time Spent at the Front.—An important question from the military point of view is the actual value as soldiers, before their hospitalization, of the men who became war neurosis cases. Russell[18] took 60 cases at random in the British service, and estimating time at the front for them, found the average to be two years and eight months, with nine of the men (15 per cent), never at the front. The average stay at the front of those patients at Base Hospital 117 who had been there at all was about 57 days; there were besides these two hundred and five men (7.59 per cent) who had never reached the front. A few of

[16] In the British Army there were 3076 death sentences passed, of which 343 were carried out. Of those executed 18 were for cowardice, 266 for desertion.

[17] Barbe found a high percentage of the crime in the French Army to have been committed by psychopaths. Ann. med. psychol., 1922, xii, 120-33. King found the same to be true of the United States Army.

[18] Arch. Neurol. and Psychiat., 1919, i, 30.

the men had been in other armies before our own. Statements of length of time at the front taken from patients' accounts of their experience are of course subject to error.

(e) Branch of the Service.—It is interesting to compare the relative incidence per 1000 cases of psychoneurosis of the various branches of the service with the incidence per 1000 men killed in action for the same divisions of the army. Tables II and III indicate that the infantry, both officers and men, and the officers in the air service, were higher in proportional representation among those killed in action than among those victims of psychoneurosis or those sent to Base Hospital 117 from elsewhere in the A. E. F. On the contrary, the incidence of psychoneurosis was higher per 1000 such cases in the engineer corps; viz., for officers 30 to 3 and for men 63 to 14; in the tank corps among both officers and men in the proportion of 3 to 1; in the artillery, for officers the relative incidence was 72 to 38 and for enlisted men 53 to 31; in the signal corps both officers, 9 to 3, and men, 13 to 6; and lastly in the medical corps, where 59 officers were hospitalized for psychoneurosis as compared with 12 killed in action, and 26 en-

TABLE II

REPRESENTATION OF VARIOUS BRANCHES OF THE SERVICE AMONG EACH 1000 KILLED IN ACTION[19]

	OFFICERS	MEN
Infantry and Machine Gun	846	941
Air	75	1
Engineers	20	14
Tank	3	1
Artillery	38	31
Signal Corps	3	6
Medical	12	5
Quartermaster	3	1
Cavalry	0	0
Ordnance	0	0
Total	1000	1000

[19] Figures on number of each branch of service per 1000 men killed in action derived in part from Ayres, ibid., p. 121, and in part from a report of the Personnel Division G. H. Q., A. E. F., obtained through the courtesy of Colonel Frank W. Weed, editor in chief of the U. S. Army Medical Department Medical and Surgical History of the World War.

listed men became psychoneurosis cases, compared with 5 killed in action.

Further research would be necessary before an adequate explanation of these figures could be obtained. One that is plausible in the case of the engineers, signal corps, artillery and tanks, is that psychoneurosis was more likely to occur in those branches of the service that involved technical work

TABLE III

REPRESENTATION OF VARIOUS BRANCHES OF THE SERVICE AMONG EACH 1000 CASES OF PSYCHONEUROSES[20]

	OFFICERS	MEN
Infanty and Machine Gun	770	835
Air	13	1
Engineers	34	63
Tank	30	3
Artillery	72	53
Signal Corps	9	13
Medical	59	26
Quartermaster	13	2
Cavalry	0	1
Ordnance	0	3
Total	1000	1000

done at the front under extreme hazard. In regard to the medical corps, the greater proportion might be explained by the fact that these individuals witnessed terrible sights of mutilation and disease both at the front and in hospitals behind the lines. These two types of situation in any army at war, that of the signal corps and engineers and that of the medical corps, are occasions for fear or horror without adequate release of the emotions in the usual instinctive paths of motor activity. Furthermore, age constitutes an important factor. The older men in the professional services of an army are less readily adaptable to the demands of active military service.

It is possible that the study of the types of men who made up these various branches of the service might reveal significant differences in make-up and personality sufficient to

[20] The total number of psychoneuroses in these branches of the service among the Base Hospital 117 patients from which these figures are computed was 2596.

account for the above findings. The data given above reveal merely the fact of greater susceptibility to psychoneurosis in certain branches of the service as compared with others: explanation of causes remains after all more or less a matter of speculation.

CHAPTER IV

MENTAL AND PHYSICAL MAKE-UP OF A TYPICAL GROUP OF A. E. F. SHELL SHOCK VICTIMS

(a) The Ages of This Group Compared with Those for the Army as a Whole

Whether or not the factor of age is significant in the development of war neuroses may be discovered by comparing the ages of the patients of Base Hospital 117 (taken at the time of their hospitalization) with the distribution of ages in the army at large. Davenport and Love[1] have tabulated the ages of 3,683,134 soldiers (officers and men) from the records of the War-Risk Insurance Bureau, and these may serve as a basis for comparison. In interpreting the comparison between the figures for Base Hospital 117 and those of Davenport and Love for the army at large we must recall that the Davenport and Love ages were obtained from insurance policies taken out shortly after the soldiers' arrival in camp. Ayres[2] estimates that the average American soldier spent from eight to nine months after the time of his entering camp before he reached the front, and this means that the ages of the men as given by Davenport and Love would all have increased by eight months or more by the time they might have reached Base Hospital 117. With this in mind the following data are submitted.

The median for the ages given by Davenport and Love is 24.664 years, for the ages at Base Hospital 117, 24.662 years. though the medians of the two groups are practically identical, the median for the Base Hospital 117 group is in reality about eight or nine months less than that for the army

[1] Volume on Statistics, Part I, Anthropology, Vol. XV, Med. Dept. U. S. Army in the World War, p. 64.

[2] Op. cit. p. 35. "The average American soldier who fought in France had six months of training here, two months overseas before entering the lines, and one month in a quiet sector before going into battle."

at large, for the reason given above, namely, that the ages for the Base Hospital 117 group were taken approximately this length of time later in the soldiers' careers than were the Davenport and Love ages.

TABLE IV

COMPARISON OF AGES OF PATIENTS OF BASE HOSPITAL 117 WITH AGES FURNISHED BY 3,683,124 APPLICANTS FOR WAR RISK INSURANCE ON BASIS OF INCIDENTS OF EACH AGE PER 2653 (THE NUMBER OF PSYCHONEUROSIS CASES ON WHOM AGES WERE OBTAINED)[3]

AGE	D & L	B. H. 117	AGE	D & L	B. H. 117
16	1	2	34	13	19
17	9	7	35	10	15
18	46	34	36	9	12
19	89	127	37	7	8
20	111	152	38	7	9
21	210	164	39	6	4
22	364	307	40	5	8
23	315	334	41	4	5
24	274	302	42	3	4
25	234	227	43	3	4
26	204	224	44	2	3
27	160	140	45	2	7
28	154	141	46	2	1
29	135	110	47	1	2
30	125	104	48	1	2
31	91	79	49	1	0
32	36	58	50 and over	4	5
33	15	33	Medians	24.664	24.662
			Q	2.315	2.315

In comparing the number of admissions under twenty-one years of age with the Davenport and Love figures for the same ages, we find:

TABLE V

Davenport and Love—soldiers under 21 years in army at large	256 (per 2653)
Base Hospital 117—patients under 21 years	322

Again we must consider when the data were obtained in each group and allow for the eight or nine months difference in the dates when the two sets of ages were taken. The Davenport and Love figures as they stand are too large for

[3] Throughout the following discussion the figures given by Davenport and Love will be converted into numbers per 2653, in order to facilitate comparison with the figures for Base Hospital 117.

this group, since approximately two-thirds of the men recorded by them at age twenty would by the time of hospitalization have passed into the twenty-one-year-old group. They list 111 men (per 2653) as twenty years old. When two thirds of this number is transferred to twenty-one years, it leaves the relative numbers as:

TABLE VI

Davenport and Love—soldiers under 21 years in army at large	182
Base Hospital 117—patients under 21 years	322

These figures reveal a marked disproportion between the admissions to the hospital of men under twenty-one and their number in the army at large, 77 per cent more men from this age group being admitted to the hospital than their proportion in the army would lead us to expect. That is, there was a marked tendency for men under twenty-one to develop neurosis in greater numbers than their proportion in the army would warrant.

The usual upper age-limit for army enlistment is thirty-five years. This implies a decrease in the desirability for army service of men above that age. Comparison of the two groups for the ages above thirty-five gives the following figures:

TABLE VII

Davenport and Love—soldiers over 35 years in army at large	67
Base Hospital 117—patients over 35 years	89

The total for Davenport and Love at thirty-four years of age is 13. Two-thirds of 13 must be added to the figures given above to make them comparable with those of Base Hospital 117, because of the eight months difference in the time of taking ages. Allowing for this discrepancy, we must add 8 to the 67, making a total of 75. Including this allowance, there are 19 per cent more patients at these ages than the expectation in the army at large. This difference is significant enough to warrant a second, though less

marked conclusion, i. e., that men over thirty-five had a somewhat greater proportional liability to develop war neuroses than the numbers of those ages in the army at large would warrant.

(b) Family and Personal History.—The question of the significance of the place of lessened resistance in the individual's nervous system is perhaps the most significant problem for statistical study in connection with the nature and etiology of war neurosis. There has been a widespread tendency to imply nervous or biological inferiority in the war neurotic. By this is meant that in the past life of the individual there had been some incident or some condition in which the neurosis was latent, that the war merely revived an old or innate weakness. It was assumed that the pathological factors in the individual's make-up had been manifested earlier by such incidents as nervous breakdown, chorea, tics, speech disorders, and the like. Also, in addition to previous personal weakness, nervous inferiority includes familial defect in the form of direct or collateral expressions of serious nervous disorders. Yet the following quotations illustrate the existence of a diversity of opinion regarding the relationship of neuropathic taint to the occurrence of war neurosis.

Mott[4] states: "Quite early in my experience . . . . I found that the war neuroses and shell shock cases had in the majority of cases an inborn or acquired disposition to emotivity. The same conclusion was arrived at by eminent French and German authorities." Yet later in the same discussion Mott says: ". . . . shock—and by that I mean not only commotional but emotional shock—due to terrifying or horrifying conditions of this war, may induce hysterical manifestations in a neuro-potentially sound individual, in fact, in a soldier who by his record has shown that he is neither of a timid disposition nor has any neuropathic tendency." Wolfsohn[5] studied 100 of Mott's cases

[4] Brit. Med. Jour., 1919, pp. 439, 440.
[5] Jour. Am. Med. Assn., 1918, lxx, 303.

and found in 74 per cent a positive family history and in 72 per cent positive personal history. Whereas Hurst[6] believes the war neuroses may develop in anyone, Babinski limits liability to the supersuggestible. Grasset[7] believes that ". . . . personal and hereditary antecedents (ante bellum) have comparatively little value in the psychoneuroses of war." Pollock,[8] in a study of 200 cases, found positive family history in 4 per cent, positive personal history in 23 per cent, mental deficiency in 1 per cent. Salmon[9] stated: "They (the constitutional neurotics) constitute, therefore, a large proportion of all cases, but a very striking fact in the present war is the number of men of apparently normal make-up who develop war neuroses." Rhein,[10] studying incipient cases in a forward area hospital, found that of 342 cases studied 195 had negative family history and 137, positive; of 320 cases studied by him for personal history, 174 were negative and 146 positive. He explains his large negative findings by saying that in the active war areas "one acquired in a short time a state of nervous instability which in civil life would require months or years to bring about." The shortened period in the genesis of general paresis in soldiers at the front is a similar fact; Weygandt[11] suggests a similar foreshortening for dementia precox. Schwab[12] states that the percentage of neuropathy "never appeared to be greater than 5 per cent." Charcot[13] believed hysteria to be always attributable to hereditary causes. Viets[14] wrote: "The neuroses all had a history of more or less psychopathic disposition before the war." Kiely,[15] studying 500 cases at a base hospital in the A. E. F., found 34 per cent with positive family, and 42 per cent with positive personal history. McDougall[16] says: "Neuroses

[6] Arch. Neurol. and Psychiat., 1919, ii, 564.
[7] Cited: Williams and Brown: Neuropsychiatry and the War, 1918, p. 20.
[8] Ill. Med. Jour., 1920, xxxviii, 209.
[9] Report, 1917, op. cit., p. 31.
[10] Jour. Am. Med. Assn. 1920, lxxiv, 1402.
[11] Med. Klin., 1914, x, 1503.
[12] Arch. Neurol. and Psychiat., 1919, i, 599.
[13] Dercun, F. X.: Arch. Neurol. and Psychiat., 1919, i, 68.
[14] Albany Med. Jour., 1919, xl, 17.
[15] Ohio Med. Jour., 1919, xv, 711.
[16] Am. Jour. Psychiat., 1922, i, 339.

are not merely the fanciful production of idle women of inferior constitution, but they may affect in very severe and distressing forms men of originally healthy and vigorous constitution.'' Jeliffe and Payne[17] conclude that: . . . . it has to be remembered that careful inquiries into the family histories of all people, healthy as well as sick, have shown that the preponderance of such heredity for the mass of neuroses and psychoses is but a trifle more than that for healthy individuals.''

The supposition that a pathological nervous incident in the life of an individual may come to light under the stress of war conditions is unquestionably true. There were many cases at Base Hospital 117 in which some old symptom had returned, the recurrence being usually in exaggerated form. A man who had stammered a bit in his youth entered the hospital mute or aphonic; tics or choreiform movements of childhood reawakened as generalized course tremors. In what might be called the sphere of subjective symptoms, phobias, worries, suspiciousness, to say nothing of those symptoms related to conditions falling under the head of constitutional psychopathic states, this same exaggeration occurred. There were several cases of men who had been previously of a slightly suspicious make-up who showed upon admission to the hospital distinctly paranoiac symptoms,[18] these usually following upon some severe fatigue. Likewise, in many of the psychasthenics an old fear of the dark, horror for high places, self-doubtings, or other similar conditions, were greatly magnified. Several interesting cases in which there had been in childhood or throughout the previous life of the individual an obsessive fear of the dark were carefully observed. These patients entered the hospital, after evacuation from the front, in a state of terror, not only of the dark, but also of the day, and especially of being alone at any time. They were often afraid to leave the ward, and generally would venture but a short distance

[17] Jour. Nerv. and Ment. Dis., 1918, xviii, 392.
[18] Savage also suggests that war service may turn very suspicious persons into paranoiacs. Jour. Ment. Sc., Lond., 1916, lxii, 254.

from the hospital alone. If they had to go anywhere at night they would wait until someone came along who was going in the same direction. Citations from case histories throw further light on the existence of previous neuroticism in these patients; a random few of these are: "An ambulance driver went to pieces immediately on arrival at the front. As a child of seven years, he had a serious breakdown after seeing beef slaughtered," "caught in a tornado, 1917, became weak and shaky," "witnessed railroad accident in which five people were killed and had to stop work as a railroad flagman," "nervous, subject to fainting spells at sight of blood." An unfortunate aspect of citations of the above sort is that, first, we have no data to determine what per cent of all the men at the front had had this sort of experience in their previous personal history; and second, we do not know how many of such men actually carried on at the front without suffering any nervous disability. However, these examples do definitely indicate the likelihood of the development of nervous symptoms in men in whom indications of nervous instability had occurred previously.

In discussing the causal significance of neuropathic taint, it is interesting and pertinent to compare our findings with the proportion of familial and personal taint in the average regiment that went overseas and saw service at the front. Bowman,[19] in a very valuable contribution, describes the testing of a regiment at one of the cantonments in America in which he found that 45.59 per cent of the men gave positive findings; 38.43 per cent were themselves neuropathic, and positive family histories were noted in 9.84 per cent of his cases. Only 2.2 per cent of these men were recommended for discharge;[20] the rest probably went to France.

Undoubtedly the attitude of the men in camp in America

[19] Bowman, C. M.: Report of the Examination of the ——— Regiment, U. S. A., for nervous and Mental Disease, Am. Jour. Insan., 1919, lxxiv, 555-67.

[20] Bowman in a personal communication adds that "It is also perhaps well to note twenty-four cases which were picked out from preliminary examination for further study were not studied because of transfer to other organizations, and the actual number recommended for discharge would have probably been higher if these cases could have been studied."

toward answering many personal questions was different from that of patients at the hospital in France. Men who were eager to cross the ocean and see action were quite loath to give information which was likely to jeopardize their chances of going overseas. But how different the attitude toward disclosing family and personal neuropathy among men who had been through several campaigns, and had been blown up or concussed, and were in a hospital suffering from troubles which were at best mysterious to them, and at worst called by the ominous name, shell shock! Then again, the necessarily hasty mental examinations which were made in the cantonments of America could not be compared in acuity with the study which the ward surgeons put in upon their cases in the hospital service in France. Bowman's figures suggest, however, that probably in all regiments there were nearly 50 per cent of the men whose clinical histories if taken would show the presence of neuropathic taint either in their families or in themselves.

The staff physicians at Base Hospital 117 made inquiry regarding the patient's personal and family history. The figures used here regarding personal and family history were taken from their accounts of psychoneuroses cases assigned to their wards. Cases which were written up hastily or superficially by officers on temporary duty were excluded from consideration. As the patients were assigned to the various wards by chance this sampling is a fair one.

The data on family and personal history will be summarized under two headings: positive and negative. In considering family history, *positive* will include cases in which the family history showed that either the parents or near relatives were actually committed to institutions for the insane or suffered from symptoms which the ward surgeon could readily recognize as psychotic or neuropathic. Positive also includes frequent occurrence in the patient's family of gross medical difficulties, such as tuberculosis, heart trouble, and the like. *Negative* indicates an absence of insanity or excessive disease in the family.

In taking account of the personal history of the patient the same two categories were used: under *positive* were included numerous types of difficulties—psychoses, psychopathic personality, alcoholism, mental deficiency, premature organic troubles of the heart, lungs, etc., severe neurasthenias, speech defects and hypochondriachal disorders of long standing, neuroticism, timorousness, excitability, effeminacy, temperamentality, and sex and other anxieties; and under *negative* were those cases in which no evidence of such abnormality could be discovered in the previous personal history of the patient.

Data were obtained from approximately 1000 case histories. The discrepancy in numbers is due to incompleteness in some of the case histories. Table VIII summarizes the findings.

TABLE VIII

FAMILY HISTORY		
Positive	508	50.15%
Negative	505	49.85%
PERSONAL HISTORY		
Positive	527	51.93%
Negative	488	48.07%
COMBINED: PERSONAL AND FAMILY HISTORY		
Positive	643	63.48%
Negative	370	36.52%

By comparison with Bowman's figures of 45.59 per cent positive findings for combined personal and family history in a "normal" regiment the members of which had previously, when recruited, been given a medical examination and of which only a small number were discharged from the service, one finds that the supposition of an overwhelming probability of previous neuropathic taint in the war neurosis victim does not hold true for the patients of Base Hospital 117. There is no gainsaying that the war neurosis will tend to include symptoms which have occurred in the individual's past life, and similarly to strike any latent

weakness with telling force; but to go further and define the causation and occurrence of war neuroses in terms of these mental or nervous weak spots is an extreme view, and one scarcely warranted by the fact that more than one-third of the number of cases studied in this group gave no evidences of such neuropathic background.

(c) Physical Stigmata.—It is a traditional habit to connect psychoneurosis with the so-called physical stigmata. Jones[21] for instance, writing of war neuroses says: "The type known as degenerate, which contains many epileptics in its ranks with the physical characteristics of narrow palate, crowded teeth, simian hand and course skin, has been found frequently among these patients; I have come to regard a narrow palate as indicating a bad prognosis."

There were few notations of physical stigmata on the case-histories of patients at Base Hospital 117; less than one-half of 1 per cent. Anomalies of growth, such as marked facial asymmetry, Hutchinson teeth, feminine type of breast, and pubic hair distribution, did occur, but these were rare in view of the total number of cases admitted.

(d) Venereal Disease.—Of all the war neuroses cases examined at the hospital, 461, or 14 per cent, gave a history of venereal infection. Most of these were gonorrheal and had occurred previous to enlistment, evidently having been cured before the men appeared at the recruiting station. Acute cases of venereal infection would not be included because they were evacuated from the hospital with the special diagnosis and sent to general hospitals for treatment. There were few such transfers.

Venereal disease as a military menace in war-time army has been serious in the past. The record for our army abroad was especially noteworthy. At the height of the fighting there was on the average one or even less than one man per thousand in hospitals for these conditions. The

[21] Brain, 1919, xlii, 176.

accompanying chart (Fig. 11) taken from Ayres, pictures this medico-military achievement.

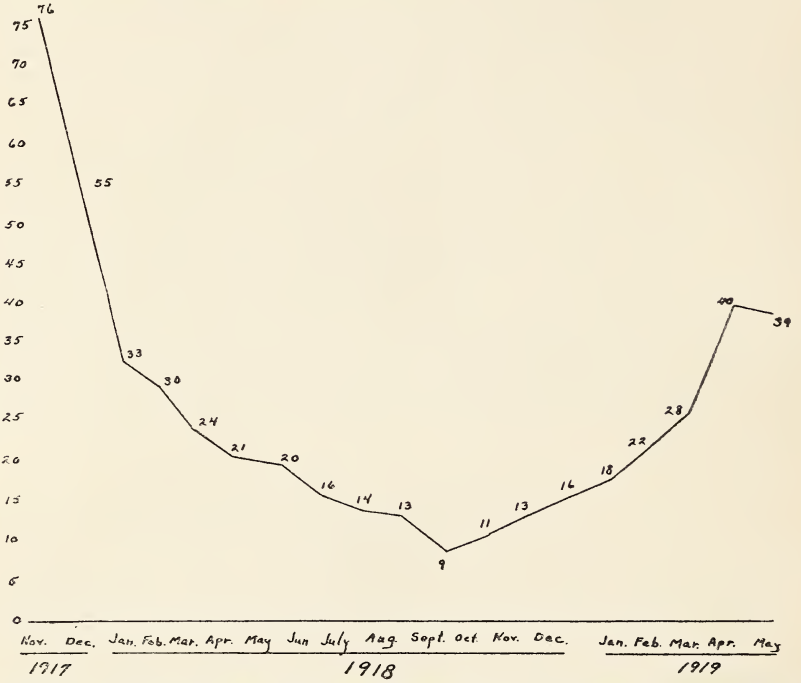


Fig. 11.—Venereal cases in hospitals among each 10,000 men in the A. E. F. (After Ayres.)

(e) Wounds.—The number of men admitted to the hospital who had been wounded or injured was very small. There were some few cases of traumatic hysteria developing upon an injury suffered from an accident with horses, mules, or camions. The total number of patients admitted who had been seriously wounded was eighteen, or less than 1 per cent, slightly wounded, one hundred and eighty-seven, or 7 per cent. These cases had recovered from their wounds at the time of hospitalization in Base Hospital 117. Kiely,[22] studying 500 cases, found only 6 per cent who had been wounded at all—only one or two of these being wounded about the head. Kiely also cites the work of Roussy and Boisseau, who got 17 out of 19 normal spinal

[22] Ohio Med. Jour., 1919, xv, 713.

fluids, suggesting likewise the infrequency of true concussion incidents. These facts bear out the usual theory that the soldier who is taken prisoner[23] or physically wounded rarely develops a neurosis.

(f) Gas.—It was rather difficult to differentiate cases in which gas had really been present from those in which it was assumed or imagined. If questioned, most of the men would remember being exposed to poison gas at one time or another. There were 148 cases or 5.51 per cent in which the history of gas injury was noted by the ward surgeon in his summary, the scar of the burn often bearing out the man's assertion.

(g) Drugs.—Of all the admissions to the hospital there were only three individuals who gave evidence of being drug users. These were in no sense bad cases. The psychoses of this sort in the American Expeditionary Forces were not many and when they occurred were sent to hospitals handling mental cases. The relationship of drugs to the etiology of war neurosis is, if present, very insignificant.

(h) Alcohol.—Opinion varies regarding the significance of alcohol in the etiology of war neuroses. Canadian authorities believed an alcoholic of thirty-five years or older a sure candidate for shell shock. Kiely[24] in his study of 500 cases found 4 per cent alcoholics. Regis[25] believes alcohol has nothing to do with war neurosis. Lepine,[26] on the basis of 6000 cases he observed, claims that "alcohol was the primary and sole cause in one-third of his cases, and more than half, perhaps two-thirds, were influenced by it." Lepine likens it to malarial disease in the pathology of certain countries. Read[27] on the contrary is very em-

[23] Moerchen found 5 neurosis cases among 40,000 Allied prisoners in Darmstadt (München. Med. Wchnschr., 1916, lxiii, 1829.) Ross objects that no psychiatric attention was given to prisoners. (Edinburgh Med. Jour., 1919, xxiii, 270.) Lust, however, studying 20,000 prisoners confirms the findings of Moerchen (München. Med. Wchnschr., 1916, lxiii, 1829.) Bing and Vischer noted among prisoners in Switzerland that 10 per cent had neurasthenia of the "prison" type, i. e., amnesia, insomnia, irritability. (Lancet, 1919, ii, 696-97.) Wilmans (München. med. Wchnschr., 1916, lxiii, 1558.) found 5 neurosis cases in 80,000 prisoners.

[24] Op. cit., 715.

[25] Cited by Jeliffe and Payne: Jour. Nerv. and Ment. Dis., 1919, xlix, 52.

[26] Troubles Mentaux de la Guerre, Paris, 1917, Masson.

[27] Military Psychiatry in Peace and War, 1920, Lewis, London, p. 34.

phatic in his denial of the significance of alcohol as anything but contributory in the causation of war neurosis. Jeliffe and Payne[28] state that "alcohol does play a part both in the initial causation, recurrence, and curiously too in the cure[29] of neuroses; but a very small part at best."

The statistics of the cases at the hospital regarding the use of alcohol, as elicited by the ward surgeons in their clinical histories are shown in Table IX.

TABLE IX

NEGATIVE:	(ranging from abstainer and moderate drinker to those who had been intoxicated once or twice in their lives) 2295, or 92.73 per cent.
Positive:	(those men who gave a history of frequent alcoholic dissipation, including "demonstrations" during their hospitalization) 180, or 7.27 per cent.

Inasmuch as these figures were obtained from the men's replies to questions the ward surgeons asked them, undoubtedly there may have been some misrepresentations. However, observation of the men's behavior in nearby towns and about the grounds of the hospital showed that there were few among the group that tended to alcoholism. Furthermore, the inability of the men at the front to obtain alcoholic beverages in large amounts either from army sources or otherwise, practically eliminates alcohol as an important etiologic factor in war neurosis in the A. E. F. experience. Its part as a contributory factor, however, is difficult to determine.

[28] Jour. Nerv. and Ment. Dis., 1919, xlix, 53.

[29] One of the most interesting cases of complete amnesia which I saw began to clear up under alcohol. The patient returned to the hospital after imbibing freely, very much excited over some visual images related to his lost memories which were passing before him. In a short time, by simple association means, a good part of this man's memory returned.

Southard in his Shattuck Lecture, p. 64, cites the case of a man ". . . who jumped the wall and got drunk, breaking back into the hospital to show his doctor how his refractory voice had at last come back."

CHAPTER V

SOCIAL AND ECONOMIC BACKGROUND OF THESE MEN

(a) Birthplace.—The cosmopolitan origin of the American Expeditionary Forces is interestingly brought out by inspection of the birthplaces of the Base Hospital 117 patients. Sixty-four of the patients were born in Italy, 49 in Russia, 19 in Ireland, 15 in Poland and 14 each in Canada and England. Besides representatives from other major European countries, Cuba, Switzerland, Armenia, South Africa, Brazil and the "high seas" were also represented. And if we were to include the psychoses at the hospital we should find cases from China and Egypt. Table X contains the figures for the various countries from which the foreign-born psychoneurosis patients of the hospital came.

TABLE X

Albania	2	Finland	4	Rumania	5
Argentine	1	France	2	Russia	49
Armenia	2	Germany	4	Scotland	6
Austria	7	Greece	10	Servia	2
Belgium	3	Holland	1	South Africa	1
Bohemia	1	Hungary	1	Sweden	2
Brazil	1	Ireland	19	Switzerland	2
Canada	14	Italy	64	Turkey	1
Cuba	3	Lithuania	2	Wales	1
Denmark	2	Norway	7	High Seas	1
England	14	Poland	15		

In view of the great amount of moving from state to state the figures for the birthplace of the men are less significant than those for home addresses in drawing inferences regarding the social background of the war neurotic group. The accompanying map, Fig. 12, however, gives the distribution of birthplaces of the American-born patients.

(b) Home Address and Occupational Environment.—The states which the enlisted men who were patients of

Base Hospital 117 gave as their homes were compared with the percentages of enlistments in the army as a whole coming from the same states. It must be remembered in interpreting such a comparison that a determining

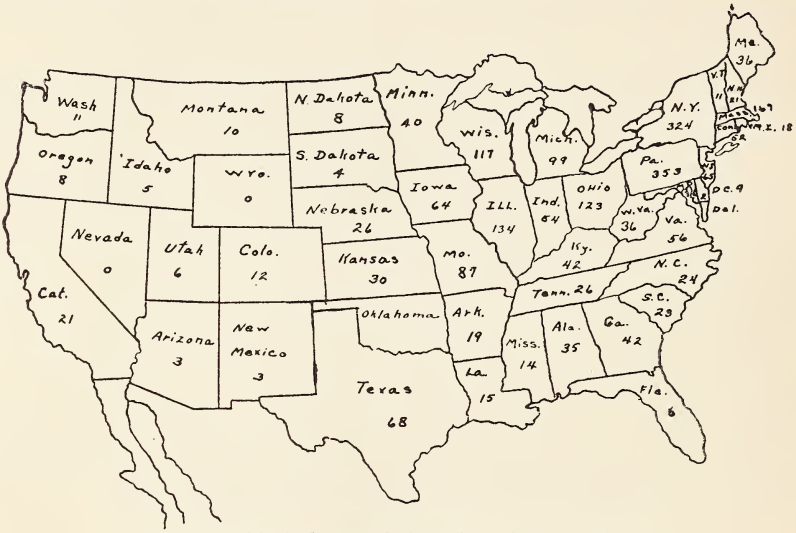


Fig. 12.—Birthplaces of American born patients.

factor in the incidence of psychoneurosis in various divisions of the army is the severity and duration of the campaigns in which the troops in question were used. There is, of course, no assurance that soldiers from the various states were subjected to similar severity of military stress. Yet the coefficient of correlation by the rank method[1] between the percentage of Base Hospital 117 patients from each state and the percentage of the total army enlistments by states is plus 0.841 (P. E. + 0.0297). This correlation would indicate that from the standpoint of proportionate representation from the states our selection of cases is in general tendency adequately representative of the constitution of the army as a whole.

Significant interpretations regarding the types of lo-

[1] Calculation with Spearman's formula—

$$\text{Rho} = 1 - \frac{6\,\Sigma\,d^2}{N(N^2-1)} \quad \text{and the P.E.} = \pm\, 0.7063\, \frac{1-2\,\text{Rho}}{N}$$

calities from which these men came are obtained from the consideration of the percentage of urban and rural residents, density of population, percentage of foreign-born, and number of males ten years and over engaged in agricultural work, in the various states. When either the ten highest ranks are compared with the ten lowest (by the addition of the percentages) or the 24 highest with the 24 lowest for the above mentioned four considerations, the data are all similar in tendency. The states in which there were the highest percentages of native stock, of rural residents and of agricultural workers, and the least density of population, gave much smaller quotas of psychoneurosis patients than did the states high in density of population, urban residents, foreign-born, and nonagricultural workers.

Or viewed from another angle these facts are further defined by the coefficient of correlation by the rank method[2] between Base Hospital 117 percentages ranked for the four qualities under study and the rank order of percentage of enlistment in the total army. Rho is positive for density of population (plus 0.609, P. E.+0.123), for percentage of urban residents (plus 0.464, P. E.,+0.079), for percentage of foreign-born (plus 0.104, P. E.+0.090), and negative for percentage of males ten years and over engaged in agricultural work (minus 0.507, P. E.+0,072).

When the draft quotas were being filled it was found that the different parts of the country varied in physical readiness and vitality. Ayres,[3] after presenting the official statistics for the physical fitness of the various states as expressed in the percentage of men accepted of all those called for national service, says: "In general, it is noteworthy that the best records are made by those states that are agricultural rather than industrial and where the numbers of recently arrived immigrants are not large." It should be observed, while noting the striking similarity for these data and those of Ayres, that there need not neces-

[2] Tabulations given in thesis on file in the library of Leland Stanford Junior University.
[3] Op. cit., p. 21.

TABLE XI

COMPARISON OF DISTRIBUTION OF TYPES OF OCCUPATION OF BASE HOSPITAL 117 PATIENTS WITH CERTAIN OTHER GROUPS

TYPE OF WORK DEFINED BY 1920 CENSUS	BASE HOSPITAL 117 TOTAL GROUP		1920 CENSUS[5]		ENLISTED MEN IN A. E. F.[6]		ENLISTED MEN BASE HOSPITAL 117 PATIENTS	
	NO.	%	NO.	%	NO.	%	NO.	%
1. Agriculture	261	11.5	9,869,030	29.8	161,975	29.9	257	12.1
2. Extraction of minerals	53	2.3	1,087,359	3.3	12,239	2.3	52	2.5
3. Manufacturing and mechanical trades	789	34.7	10,888,183	32.9	151,429	28.0	780	36.6
4. Transportation	313	13.8	2,850,528	8.6	70,231	13.0	312	14.7
5. Trade	253	11.1	3,575,187	10.8	36,816	6.8	214	10.1
6. Public service	45	2.0	748,666	2.3	18,099	3.3	26	1.3
7. Professional	163	7.2	1,127,391	3.4	34,748	6.4	117	5.5
8. Domestic service	57	2.5	1,217,968	3.7	4,535	0.8	57	2.7
9. Clerical	339	15.9	1,700,425	5.1	51,429	9.5	319	14.5
Total[4]	2,273	100.0	33,064,737	100.0	541,501	100.0	2,134	100.0

[4] Does not include 4,937 of A. E. F. given as "Education extent of" and 37,034 given as "laborer" (total 7.2%). Likewise for B. H 117 total group, 293 who gave occupation of laborer and 124 as students are omitted (total 15.50%).

[5] Fourteenth Census of the United States, 1920, iv, 3.

[6] Personnel System of the U. S. Army, vol. I, U. S. Gov't Office, 1919, i, 213-16.

sarily be any relationship between the percentage of neuropathic tendency among those *selected after an examination for physical fitness has eliminated the unfit.*

Another aspect of the problem which should be considered in attempting a definition of the gross environmental factors from which the war neurotics were recruited is occupation. This has already been touched upon from one angle (agricultural work).

In Table XI, the census data on occupations are compared directly for each type of work with the occupations given by the Base Hospital 117 patients (officers and enlisted men) in their clinical records. Several items, viz., mining, manufacturing, trade, and public service, involving about 50 per cent of the group, were similar in proportion in both sets of data. It is interesting to note, however, that whereas the percentage of males over ten years in the United States in employment of some kind who were doing agricultural work was 29.8 per cent in 1920, only 11.5 per cent of the hospital patients gave agricultural work as their occupation when questioned at the hospital. On the other hand, the professional quota in the census is 3.4 per cent, while in the total hospital groups it is 7.2 per cent; likewise, the percentage of men in clerical work in the country at large was 5.1 per cent, while among the hospital group it was 15.9 per cent; work related to transportation took in 13.8 per cent of the hospital groups and but 8.6 per cent of the males of the country at large. There were fewer (2.5 per cent) of the hospital group engaged in domestic work than the quota for the country at large (3.7 per cent). The last might be accounted for by alien exemptions and the ages of men engaged in domestic work. While recognizing the obvious tendencies of the data, it should also be remembered that 293 patients gave their occupation as "labor" and 124 were students. These cases, comprising 15.50 per cent of the group, are not used in the computations in Table XI because of the indefiniteness of description and the inability to allocate them in terms of the census classification.

The data taken in comparison with the census figures unmistakably indicate that so far as occupational milieu was concerned those men who were engaged in clerical, professional, or transportation work were liable to develop war neurosis in greater proportion than their quota in the total male population would warrant.

The Personnel Division of the Army has also provided some occupation statistics on over half a million enlisted men of the A. E. F. useful for comparison with our own. These data are arranged in Table XI according to the census categories for the purpose of comparison. As indicated in the footnote to Table XI, two groups are omitted as inadequately descriptive and incapable of being fitted into this classification. Otherwise the group totals 541,501. As one would expect, these figures show that the enlisted men of the army in France were not a perfect sampling of the occupational cross-section of the male workers of the country; especially is the variation from the census notable in professional and clerical work, domestic service, transportation, and trade. Only in the agricultural figures are the two sets of facts practically identical.

When the enlisted men of the Base Hospital 117 patients are compared with the A. E. F. figures for occupations of enlisted men, we find certain items in disagreement. The quotas of patients, especially for agriculture, and also for public service and domestic service are considerably less than expectation, whereas the quotas for manufacturing and mechanical trades, clerical work and trade, are greater than expectation. The most striking difference is again in the small percentage in the agriculture group, while the greater proportion in clerical and domestic work and in trade are the most significant differences in the other direction; namely, towards a greater representation among the psychoneurosis patients than their proportional quotas. There is a slightly smaller percentage of the patients in professional work than the proportion of the A. E. F. soldiers.

This difference may be accounted for by errors in the collection of the A. E. F. data; the very small number who gave the occupation "student" being indicative of a possible exaggeration of occupational status by these individuals into the professional ranks. In general, the tendency is for the patients to be engaged in bookish, indoor, commercial work in greater proportion than the army in general and to have a lesser proportion of men engaged in agricultural work. The work of Yerkes and his colleagues in the army and of Barr at Stanford, has demonstrated that the intelligence levels of men engaged in various occupations run through an ascendant series from the unskilled laborers up to the professional types. Unfortunately these data on the Base Hospital 117 group do not lend themselves to interpretation by any of the occupational scales now obtainable. In a later section this problem will be reviewed in the light of more adequate data. For the present, however, it may be noted that the war neurotic group, which is high in the trade and clerical types of work and low in agricultural work when compared with the enlisted men of the A. E. F. is probably at least the equal of the latter in general occupational rating.

(c) Race and Religion.—There are no data on the racial and religious origins of combat troops in the A. E. F. suitable for comparison with this war neurotic group. There were 44 negroes discharged as psychoneurotic from Base Hospital 117, or 1.82 per cent of the total group. Nothing striking occurs in the figures for religious denominations of the men. The data are given in Table XII.

TABLE XII

RELIGION	NUMBER	PER CENT
Protestant	1627	61.93
Catholic	867	32.96
Hebrew	95	3.92
None	38	1.36

(d) Implications Regarding Intelligence Level, De-

duced from Education.—It is unfortunate that the problem of the relationship of intelligence level to war neurosis could not have been anticipated and studied carefully during the war.[7] What has been done is not fundamental.[8] For instance, an extensive tabulated study made by Hollingworth[9] on soldiers at Plattsburg, New York, is inadequate as a definition of the intelligence level of typical war neurosis cases because it is concerned, first, with cases returned from the A. E. F. (Class D was their military classification) who were usually chronic and hospitalized,[10] and second, with the constitutionally predisposed (or actually pre-existent cases) which developed in camps at home in America. The soldiers from the A. E. F. whom Hollingworth studied were so badly invalided and of such a poor prognosis as not to warrant the bringing of food to France to feed them; it was more practical to send them back to America. Hollingworth realizes (p. 90 ff.) that his is not a study of typical war neurosis cases at all; for the cases of psychoneurosis he used (numbering 384 plus perhaps an additional 71 called "concussion") represent the above mentioned selections.[11] It is not surprising therefore in view of the *kind of selection* to find that these men *tested*

[7] Test records at the Surgeon-General's office at Washington, which might have been used now for this purpose, have, according to information received from Dr. Yerkes' Office at the National Research Council, in 1924, been destroyed as "useless paper."

[8] For instance, Prideau and Hollingworth in a series of valuable observations (which, however, do not throw light upon the direct problem of the relationship of intelligence to psychoneurosis) give concrete data demonstrating a relationship between intelligence and type of symptom which had been brought out previously in the observations of men in the armies abroad, notably MacCurdy, Rivers and others. Hollingworth (cited below, p. 108) draws the following conclusion on the basis of his study of 179 cases: "It is clear that the difference in specific symptoms is correlated with a difference in mental level. The individuals with overt, objective, somatic, and postural symptoms are four years inferior in intelligence ratings to those individuals whose symptoms are psychic, subjective, or autonomic. Those individuals manifesting a combination of both types or showing the uncertain types of symptoms constitute mentally also an intermediate group." Studying 324 cases Prideau gets the same results as Hollingworth's just cited, regarding the relationship between intelligence and type of symptom. He states (Jour. Neurol. and Psychiat., 1921, xxi, 212): ". . . amongst my military in-patients of those who had not reached higher than standard III, 82 per cent suffered from conversion hysteria, while of those who had reached standard VII only 6 per cent suffered from conversion hysteria."

[9] The Psychology of the Functional Neuroses, D. Appleton Co., 1920.

[10] The median educational attainment of the Class "D" cases was (even with cases with definite diagnosis of mental deficiency excluded) approximately two years less than the median educational attainment for the other classes. Definitions of the A. E. F. military classification are given in chapter I.

[11] Hollingworth states on page 82 "In the present instance this made possible the accumulation of intelligence ratings of nearly 1200 psychoneurotic individuals." These so-called psychoneurotics reduce in number to 384 when the mental deficiency, epilepsy, constitutional psychopathy, cerebrospinal meningitis, psychoses, organic nervous disease, "undiagnosed" and "concussion" cases are subtracted.

low in the varied battery of tests of intelligence which Hollingworth used. Other data on the intelligence of war neurotics are equally unsatisfactory. Adrian and Yealland[12] state that "The majority of the patients are below the average normal intelligence as judged by the Binet-Simon scale." But as Prideau[13] points out: "The intellectual status of a psychoneurotic patient . . . . is difficult to estimate, for mental tests in my experience are then of doubtful value." This last statement would be pertinent to such a study as Hollingworth's. For it is known that alcoholics "clearing up" show improvement in their mental level as the toxic condition in their body recedes. It would be a valuable study to give repeated Alpha or Terman Group tests, or preferably the Stanford Binet, to a group of psychoneurotics upon admission to a mental hospital and again immediately before discharge. Unfortunately, therefore, a study of a representative group of war neurotics from the standpoint of intelligence is not obtainable in the literature. Our notions of the intelligence of the Base Hospital 117 group will have to be derived by inference from their educational status because facilities for mental testing were lacking at the hospital in France. As a matter of fact, however, when actual mental test data are lacking there is probably no other measure of intelligence for groups taken as a whole better than educational attainment.

For example, as a result of the army studies, Yerkes[14] points out first: "The theory that native intelligence is one of the most important conditioning factors in continuance in school is certainly borne out by this accumulation of data," and later:[15] "It is again evident here that though an intelligent man may drop out of school at almost any stage beyond the fourth grade an unintelligent man is almost unlikely to remain in school beyond the eighth grade. Distinctly more than average intelligence would seem to be

[12] Lancet, Lond., 1917, i, 667.
[13] Jour. Neurol. and Psychiat., 1921, ii, 211.
[14] Psychological examining in the United States Army, vol. xv, National Academy of Science, p, 780.
[15] Ibid., p. 783.

prerequisite to a college education and almost as strictly a prerequisite to graduating from or even entering high school." Likewise, Hollingworth,[16] after presenting his data, which give a perfect rank-order correlation between education and his findings from the mental tests, states: "Quite aside from the general considerations indicating that it is constitutional inferiority rather than momentary interference or weakness that is here measured, the records of educational attainments here given show very clearly that the inferiority antedated the present days of illness." And again:[17] "Enough is known about educational poverty to place the blame for it where it most usually belongs; namely, on intellectual incapacity to profit from either the formal or the material features of the schoolroom." Prideau[18] likewise believes that education is a good index of intelligence, and after disparaging the value of testing psychoneurotics while they are in neurosis, he says: " . . . . but the standard reached at school does give us a rough guide."

A tabulated study by Pollock and Furbush[19] gives some comparative figures on educational achievement of cases of various types of diagnosis admitted to state hospitals. It is notable that their study indicates that the psychoneurosis cases are educationally superior to nearly all the other classes. The superiority over them of the drug addicts is due to the number of physicians and nurses who are victims of the habit. Hollingworth's statements regarding the intellectual inferiority of the psychoneurotics as a group seem not to be borne out by these data.

For purposes of comparative study of the intelligence level of the Base Hospital 117 groups it is unfortunate that the educational achievement of the patients was not always included in their case histories. This was due to the fact that the army clinical-history blank did not contain any such heading as schooling. Consequently the educational status is obtained only from the histories taken by those

[16] Op. cit., p. 96.
[17] Op. cit., p. 99.
[18] Op. cit., p. 211.
[19] Comparative Statistics of State Hospitals for Mental Diseases, 1920. Pub. by Bureau of Statistics, the National Committee for Mental Hygiene, New York, p. 57.

officers who made a practice of asking patients about their education and recording their answers. Inasmuch as the cases were assigned to the various wards by chance, the selection here is a random one, and the figures thus obtained from the service of certain of the medical officers are representative.

Davenport expressed his regret that in his official statistical studies of recruits he did not get their educational

TABLE XIII

COMPARISON OF EDUCATIONAL ACHIEVEMENT OF PATIENTS OF BASE HOSPITAL 117 WITH THE ARMY AT LARGE[20]. (IN PERCENTAGE AT EACH EDUCATIONAL LEVEL)

YEARS SCHOOLING	ARMY OFFICERS	B. H. 117 OFFICERS	WHITE DRAFT NATIVE	B. H. 117 ENLISTED MEN	WHITE DRAFT FOREIGN	NEGRO DRAFT NORTH	NEGRO DRAFT SOUTH	GROUP OF PHYSICALLY WOUNDED MEN
16 plus	46.0%	54.1%	1.2%	2.2%	0.5%	0.7%	0.2%	0.3%
15	12.9	11.5	0.9	1.6	0.3	0.6	0.0	
14	10.0	8.2	1.5	1.5	0.6	0.8	0.3	3.1
13	5.7	6.6	1.8	3.9	0.7	0.6	0.3	
12	10.0	6.6	4.1	7.1	1.5	2.4	0.6	5.2
11	3.7	1.6	2.7	4.3	1.4	1.9	0.5	
10	3.9	4.9	4.8	6.5	2.5	3.2	0.9	13.7
9	2.6	4.9	6.3	6.5	2.7	3.7	0.7	
8	3.6	1.6	25.4	22.9	14.2	13.8	3.8	24.6
7	0.5	0	14.4	10.3	11.0	10.0	4.7	11.8
6	0.4	0	10.4	8.5	11.5	10.1	6.7	8.7
5	0.3	0	9.7	7.5	9.9	13.8	11.3	9.7
4	0.2	0	7.3	3.9	10.7	13.5	14.6	8.7
3	0.2	0	3.9	3.7	9.9	9.1	13.9	4.8
2	0.1	0	2.3	2.0	5.9	5.2	11.0	3.0
1	0.0	0	1.5	1.9	4.1	3.6	11.2	2.7
0	0.0	0	1.9	5.7	12.5	6.6	19.4	3.7
Median[21]	14.7	16	6.9	8.29	4.7	4.9	2.6	7.72
N	12,396	61	60,250	1,054	9,498	4,254	4,938	12,000

[20] Figures for the army at large are from Yerkes, p. 758.
[21] Armies medians from Yerkes, op. cit. 716. Median of 14.7 years means 7/10 of the way through the fourteenth grade.
[22] Baldwin, Bird T.: Sch. and Soc., 1919, x, 680. Figures originally obtained from patients at Walter Reed Hospital and later verified for 12,000 cases from files of Surgeon General's Office.

attainment. It is thus impossible to get comprehensive data on the educational achievement of any unselected group of men who reached France for our purpose of comparison with the Base Hospital 117 group. It is fortunate,

therefore, that Yerkes in his report on psychological examining in the army, has given some data on educational achievement in the army, valuable for comparison with our findings. Baldwin's data from a study of the educational attainment of a group of wounded soldiers are also useful for comparison.

Table XIII gives the compilation of the Base Hospital 117 data and certain pertinent data of Yerkes and Baldwin. Comparison of the two groups of officers shows a marked tendency for educational superiority of the hospital group. Likewise, the median for the enlisted men among the hospital patients is indicative of a higher educational achievement for them than for any of the groups of drafted men or that of the wounded men given in the table. Furthermore, from Table XIV, it can be readily noted that not merely are the central tendency facts indicative of the educational superiority of this war neurotic group, but likewise the grouped dispersion facts, in terms of men who reached the various divisions of the school system, show a similar superiority in educational achievement for the Base Hospital 117 patients—the officer patients over the officers in the army at large; the enlisted men over the various groups of the draft given by Yerkes and over the physically wounded from Baldwin's data.

If the premises which state a strong positive correlation between educational attainment and intellectual status are adequate then there is ample ground for expecting that, had intelligence tests been given to the war neurotics studied herein, their scores would have been *at least* equal, and probably somewhat superior to those of an unselected group of recruits in the American army of this war.

CHAPTER VI

THE WAR NEUROTIC BACK HOME: 1919-20

1. Introductory

Shortly after the Armistice, the statistical work on the clinical records at Base Hospital 117, A. E. F., discussed in Chapter II, was extended to include other purposes besides the definition of the nature of the war neuroses and the make-up of the patients. The preparation of an address list and the tabulation of other supplementary data were undertaken in order to make possible a later study of these typical cases when they returned to America, and thus to get some idea of the social problems of the home-coming war neurotic and his reception and self-adjustment in civilian life. The Base Hospital 117 group offered an excellent source for the attempt to ascertain what would happen to an unselected group of typical war neurotics upon their return home; what their symptoms would develop into, and how great a problem for the various governmental agencies dealing with disabled veterans the war neurotics would be. The material contained in this and the next chapter is derived from a follow-up study made by me and subsidized by the National Committee for Mental Hygiene[1] in New York City, during 1919-20, with the personal advice and assistance of Doctors Thomas W. Salmon and Frank wood E. Williams, both Medical Directors of the National Committee for Mental Hygiene.

The material obtained in this study will be summarized in two chapters. The first, which follows, will consider the social reception of the war neurotic upon returning to

[1] See Chapter I for a discussion of the work of the National Committee for Mental Hygiene in recruiting the personnel and developing the foundation organization of the Neuropsychiatric Division of the Army.

America, the agencies which were developed to help him meet his problems of readjustment, the procedures utilized and the assistance which I have rendered in the course of this follow-up. The next chapter will be concerned with the type of readjustment to civilian life made by the group in relation to various aspects of their clinical, personal, and military history. The aftermath of war neurosis in a medico-social sense will also be considered.

2. Sources of Data for This Study

There were four means by which data about the former patients of Base Hospital 117 upon their return to America were obtained. The first and most important of these was through correspondence. A form-letter was sent out which gave the men an idea of the motives which led the National Committee for Mental Hygiene to become interested in them. Personal suggestions were incorporated in the letter to tell the men that I was formerly an enlisted man connected with the hospital in France, whom many of them knew, and that the work was neither commercial nor governmental. In writing this letter an effort was made to avoid any tendency which might suggest new symptoms to the men or give them the idea that they were liable ever to have recurrences of old ones. Likewise they were given to understand that there was no opportunity for them to obtain financial assistance from this source; but that if they were ill and had not been reached by government agencies, directions, and suggestion would be given them as to how they should go about getting such aid. Toward the end of the follow-up work a second and more personal letter was sent to those who had not answered the first. It is interesting to note that the second letter drew about two hundred and fifty replies in a fortnight.

As a rule, the patients' letters were good natured and cooperative. Many of these men were personally known to me. In answering, some of the men enclosed their pictures, wedding-announcements or other personal details.

They discussed the most intimate facts of their attempts at readjustment, and included in their replies numerous interesting remarks about military life and the conditions at Brest and St. Aignon (where some of them went upon discharge from the hospital).

The second method employed in obtaining data was by making personal contact with the men. Those living near New York City were invited to come to see me at the office of the National Committee for Mental Hygiene. Many of them called during office hours; others who were engaged during the day were asked to come in the evenings, over the course of several weeks when I was at the office. I visited Boston, Philadelphia, and Washington, and invited men to call or phone to the hotel at which I was staying. There were some from out of town who passed through New York and dropped in at the office, a few of these from quite a distance, the furthest from Virginia. They were all very cordial and cooperative, as many calling for a friendly visit as for advice and assistance.

The third source of data was through writing to social agencies—especially the American Red Cross—and to members of the personnel of Base Hospital 117. Letters were written, describing this follow-up work and asking their aid in obtaining information concerning the former patients, many of whom were referred to them for assistance. The American Red Cross with its well-developed social service organization gave very valuable service in this connection.

Fourth, the officer-patients were sent a letter over the signature of Doctor Douglas A. Thom, one of the Base Hospital 117 Staff, later psychiatrist in charge of Reconstruction War Work at the National Committee for Mental Hygiene. The forty or so answers from this group contained nothing especially significant. The material is combined with the rest of the data and discussed therewith. Officers were cared for by the same agencies that deal with veterans who were enlisted men during the war.

3. Agencies Caring for Disabled Veterans: 1919-20

The two principal governmental agencies concerned with problems of the care and disposition of disabled soldiers were the War-Risk Insurance Bureau[2] and the Federal Board for Vocational Education. Coupled with the former was the United States Public Health Service, which provided physicians, hospitals, and sanatoria. When a disabled soldier applied to the War-Risk Insurance Bureau for compensation he was sent to the nearest examining physician of the United States Public Health Service, who studied his case and decided upon the amount of disability which the man had suffered. In order adequately to estimate a man's compensability a series of checks were devised, consisting of reexaminations, of the opinions of specialists, and of longer observations in hospitals. Whenever practicable, the men were rehospitalized and treated, rather than granted compensation. After all of the available medical resources of the United States Public Health Service had been utilized and the man could no longer be benefited by treatment, his percentage of disability was adjudged and the War-Risk Insurance Bureau notified of this.

The Federal Board for Vocational[3] Education was the second organization developed to meet the needs of the early Reconstruction Period. This organization purposed to teach disabled veterans, who by reason of disability incurred in the service could not return to their prewar vocation, a new line of work consonant with their changed physical and mental condition. The Board provided tuition and maintenance for the men while pursuing their studies. Men who could not return to their old occupations because of disabilities resultant from their participation in the war were to be given the opportunity to talk over their problems with experts in vocational guidance who prescribed

[2] Originally developed in 1914 to insure American vessels in the war areas.
[3] This existed prior to its use in connection with soldier after-care and is, since the development of the Veterans' Bureau (1921) no longer handling the soldier rehabilitation problem.

the sort of work and the type of training likely to be most worth while to them. It was part of the plan to offer the men a wide range in choice of occupations, in order to make allowance for differences in previous educational achievement and the many tempermental factors which are necessarily involved in vocational guidance.

Besides these two major governmental agencies, there were numerous so-called social agencies: notably the Home Service Section of the American Red Cross, the Soldiers' Re-employment Bureau (of the U. S. Department of Labor), the American Legion, the Y. M. C. A., Knights of Columbus, and other civilian welfare organizations. The latter groups often gave the men financial aid directly, but their main function, so far as this study is concerned, was that of giving publicity to and assisting the work done by the Federal Board and the War-Risk Bureau. They prepared compensation claims, vocational training applications, etc., and were of aid in following up cases and aiding the men in numerous other ways. The most important phase of the civilian efforts on behalf of the disabled soldiers during the Reconstruction Period was that of encouraging the veterans and dispelling those false and pernicious rumors constantly being invented by ignorant persons, which filled the men's minds with all sorts of foolish notions, usually in the form of destructive criticism of some phase of the government's after-care program.

The Home Service Section of the American Red Cross had offices throughout the country at which there were trained social workers rendering service to ex-soldiers or to their families. In many places, special psychiatric clinics were established by the Red Cross, directed by trained psychiatrists. Ex-soldiers were examined and treated, and through the social service workers, assistance was given them in obtaining their compensation and vocational opportunities.

Another important aid in facilitating the work of this

follow-up was the preparation by Dr. Clarence J. D'Alton, of the Staff of the National Committee for Mental Hygiene,[4] of a list of the neuropsychiatric clinics in the United States. Physicians in these clinics were often men who had been in France and were especially interested in aiding the disabled veterans. Some of the clinics had trained psychiatric social workers who were able to render great service to disabled veterans, especially, as has been mentioned, in securing their cooperation in filing the proper claims and in following out the treatment and advice of the government officials. So far as this particular group of cases was concerned, this list of clinics was especially valuable, as the ordinary general practitioner was very poorly prepared in neuropsychiatry.

The Soldiers' Re-employment Bureau had charge of the difficult problem of finding jobs for veterans. Branches of this organization were established throughout the country and the effort to advertise its purpose resulted in a generous response from employers everywhere. However, in connection with employment needs, the difficult problem of finding adequate work for neurotic and other mentally handicapped veterans was not developed to any worth while extent. The great need for occupational opportunity for this group, especially in outdoor work and in certain types of factory and domestic work, received no great amount of study. The consequence was that many of these men could not find the sort of employment for which they were fitted. The problem of adjusting these men to the existing labor market was an interesting one, deserving of more careful study than it received, and one which would have been of vast social usefulness.

4. Government Aid and the War Neurotic

In granting compensation, the decision should be made upon the grounds of whether there has been a loss or lessen-

[4] D'Alton, C. J.: Out-Patient Clinics for Nervous and Mental Diseases in the United States, Published and distributed by the National Committee for Mental Hygiene, New York, 1920.

ing of normal abilities. The problems of after-care were, however, clouded somewhat in practice by the close connections of vocational training boards with compensation boards. Consequently the tendency prevailed among the officers of the latter organizations to view disability in relation to occupational unfitness rather than to the more direct problems of physical and mental disablement. This attitude has had the result that many men were overcompensated and others seriously mistreated. In cases where symptoms were entirely subjective is this especially true. Medical officers were generally averse to treating with neurotic individuals. Mostly, of course, this viewpoint arose from their ignorance.[5]

To compensate properly an amputation case took no great effort—the rate and amount had been determined for all grades of this sort of disablement. However, the neurotic symptoms were far more difficult of definition, and hence it was much harder to form an adequate judgment as to percentage of compensability. Men who could show no objective symptoms were not treated with the same consideration which was shown to the physically wounded. If the men were frank and open in discussing their condition, nonpsychiatrically trained medical officers often regarded them as malingerers or persons seeking compensation who were not really deserving of any.

Many obstacles entered to increase the difficulties of the after-care work with the neurotic group. Sometimes the men had been so anxious to get out of the army that they waived all claim to disability rating in order to be discharged. They preferred to be without compensation rather than to remain in the army and be cured of their troubles. For instance, one man who had puncture of both ear drums and also certain nervous symptoms received no compensation whatsoever. He claimed to have been so badly treated in the course of his experience on the trans-

[5] Adequate training in neuropsychiatry is a recent addition to medical school curricula and still limited to the better schools.

port, and later in America, that he wanted nothing further from the Government than his discharge.

Many of the war neurosis cases, being discharged by physicians who were uninterested in nervous conditions, were granted no compensation whatsoever. They were given honorable discharges and passed out of the army as though they had never been hospitalized at all. In many cases all that indicated that these individuals had ever been in a hospital was the notation "shell shocked," and some data when it occurred, written in upon their discharge—this despite the fact that the term *shell shock* was ruled out as an official diagnosis early in the history of the A. E. F.[6] During 1919-20, when a man appeared and claimed compensation or asked for vocational training, he presented his discharge, and except for the material thereupon no data were available. There was usually no information except the man's account of what his experiences were, for to try to assemble and utilize the clinical data from the A. E. F. hospitals was a huge task, and not accomplished till much later. Moreover, the discharge papers were made out upon the man's own account. Some lieutenant in the infantry, who perhaps had been in America during the war, asked the soldier —"Were you ever wounded?" the patient would reply— "Yes, I was gassed and shell shocked in the Argonne, Oct. 14." This statement of the patient's was inscribed upon his discharge—and nothing further would come of it until he applied for compensation or vocational training and presented this discharge paper with the facts upon it as described above.

To be dependent upon the soldier's account of his war history is to base one's judgment upon a very weak support. This is in no sense meant to implicate the honesty or dependability of the average American soldier, but rather to emphasize that characteristic of the human mind which

[6] It is pertinent to note an italicized statement in Salmon's **Report**, p. 63: "It is recommended therefore that **no soldiers suffering from functional nervous diseases be discharged from the army until at least a year's special treatment has been given.**" Of course, unless the trained neuropsychiatrists could have been held too there would not have been much value in this.

carries it further beyond reality each time that a thing is retold. The avarice with which the men were plied for tales of the war by those who remained at home only naturally tended to stimulate the imagination, so that as time went on there was more and more open water between fact and fancy. Especially is this last statement true and important in view of the fact that an astonishing proportion of those who neared the front or were there for any time, according to their own reports, "got some gas." Observers who have studied the neuroses cases as they applied for compensation here and in England said that the proportionate numbers of American soldiers who claimed to have been gassed greatly exceeded that of the English Army.

After the war shell shock came to be a popular experience. In France the tendency among soldiers was to deny having been shell shocked. But in 1919-20, due to popular sympathy, many men were voluntarily describing their troubles as having been due to shell shock. The various agencies handling the problem of compensation found an increasing number of men who claimed to have been shell shocked. Some of them learned the term "psychoneurosis" and employed it instead.

According to the late Professor Southard, perhaps nothing plays a more determined part in judging neurotics than the "empathic index" of the examiner, or the personal impression which the patient makes upon the examining officer. The great importance of this conception for the men engaged in deciding the cases of the psychoneurotic ex-soldier is obvious. What weighs the balance in the physician's mind towards or away from the veteran largely depends on the personal impression the man makes. Among no other group in the community at large does one find more unpleasant individuals than among the neurotics. Persons in charge of lay work, such as employment agencies have long ago noted this group and endured them unwillingly. Neurotics are universally recognized as the most

difficult group to satisfy. The usual difficulties of the work of interviewing ex-soldiers are increased manifold when this group of chronic complainers and generally dissatisfied men come upon the scene. It is to be expected that non-psychologically trained examiners should be found to be antagonistic. Their empathic index for these men usually has little but contempt contained in it. Often, in the war neurotics, combined perhaps with a disordered mental make-up, there is an exaggerated and often unfounded hostility towards the army and the ungrateful populace. Many of the examiners of the various adjudicating boards did not realize sufficiently that the patient's attitude was itself an important aspect of his clinical picture. To expect the war neurotic group to act like normal wounded men is to rule them out by definition from obtaining any sort of assistance. Their very behavior is of course a symptom of their instability. And as a matter of fact, nothing really effective was done until these various agencies began to obtain the aid of trained psychiatrists in diagnosing the symptoms, evaluating the men's claims, and thereby adequately separating the chaff from the grain.

5. Summary of Procedures Used and Assistance Rendered

The former patients of Base Hospital 117, being scattered throughout the country, most of them far from the large cities where the government agencies dealing with ex-soldiers had their offices, were often ignorant of the government aid to which they were entitled. A common belief of theirs was that since they had been discharged without disability they were no longer subject to the same regulations as were other veterans upon whose discharge papers were indications that they had been disabled. A consequence of this was that when these men became sick they went to physicians and ran up bills, often without being able to pay them, or else borrowed from their families or friends to meet their obligations. Consequently, in following up this group and replying to their letters the men were given

some understanding of the nature of the federal agencies organized to aid them. They were also sent such forms as were needed for making application for government aid and instructions how to fill them out.

As before mentioned, intermediate agencies, such as the American Red Cross, and other socially interested groups were often utilized. The offices of these organizations, being located near the men, could send their representatives to investigate cases and provide or procure immediate assistance for the men when, as in many cases, the need was urgent. The Home Service Section of the Red Cross, for example, was organized in zones, and by notifying the Chief in Washington of the needs of some man one could insure that the proper district officer would be notified and assigned the task of looking after him.

The governmental agencies were often appealed to directly and requested to facilitate the hospitalization of men or the granting of vocational training in clearly deserving cases. In New York, for example, the United States Public Health officials, upon request by telephone, sent ambulances on several occasions in order that men might be hospitalized at once. Often in less time than three hours after the seriousness of the man's condition was recognized, he was under the care of these officials at one of their hospitals near the city. Unfortunately for men in outlying regions, many weeks elapsed sometimes before the necessary aid could be obtained for them.

Data on the condition of a soldier while he was a patient of Base Hospital 117 were often sent with the letter that referred him to the governmental or civilian organizations. This information, while perhaps of no great clinical value, did give insight into the man's military history and threw some light upon his condition in France. It gave more authentic knowledge of the man's previous history than could be obtained from any other source, for usually the only facts which the various organizations had to guide themselves by were the man's discharge (a very inaccurate docu-

ment for this war neurotic group) and his own statement of his military career, which was of course subject to the vagaries of imagination.

Likewise, in referring men to special neuropsychiatric clinics, the same personal effort was made. The men were sent directions about attending the clinic and the clinic was sent as full information about the man as our data on the cases could give. In New York, Doctors Douglas A. Thom and Clarence J. D'Alton, psychiatrists on the Staff of the National Committee for Mental Hygiene, examined men and advised them without charge. They had both been on the Staff of Base Hospital 117, A. E. F., and were expert in caring for the war psychoneuroses cases. In the event of men writing for advice of a medical sort, they were answered by these two specialists.

Other inquiries, such as those concerning insurance policies, back pay, liberty bonds, etc., were answered in detail. The men were given all the necessary instructions for getting satisfaction in these matters.

Eight hundred and sixty men replied to the form letters, and at least another hundred were seen personally, or else information about them was obtained from other sources. Some of these cases were in hospitals where nurses, medical officers, or enlisted men formerly of Base Hospital 117 were located. Fourteen answers were received from the families of men who had died after leaving the hospital in France. One of these was a suicide; the remainder of the deaths were due to pneumonia or other physical diseases.

The summary which follows in the next chapter contains only material on men who were definitely diagnosed as psychoneurosis cases. This explains the discrepancies between the numbers given here and those used in the next chapter. When another diagnosis, such as dementia precox, epilepsy, syphilis, was given, or when the data were incomplete, the cases were not used for study. A recent book on the psychology of functional neuroses[7] is quite con-

[7] Hollingworth, H. L.: The Psychology of the Functional Neuroses, D. Appleton Co., 1920.

fusing because of its failure to limit its discussion to true psychoneurosis cases. Assistance of a social sort, as enumerated above, was, of course, rendered to all men irrespective of whether they were psychoneurotics or not.

From the answers returned by most of the men the type of assistance of which they were in need was readily recognizable. More than half of them had readjusted themselves to civilian conditions; some of them, though self-supporting, were still nervous, however. With the others the attempt was made to resolve their difficulties by means of the various governmental and social agencies developed for this purpose.

The following is a list of the most frequent types of assistance given the men, with the number of patients so cared for:

Referred to:

1. The United States Public Health Service.....284
2. The Federal Board for Vocational Education.....234
3. American Red Cross,[8] Home Service Section.....131
4. Clinics[8] (especially neuropsychiatric).....121
5. American Legion and Veterans of Foreign Wars..... 58

Advised About:.

1. Allotments and Liberty Bonds..... 69
2. War-Risk Insurance[9] 63

6. Social Attitudes Toward Shell Shock (1919-20)[10]

A very interesting aspect of the war neuroses was their sociological significance—the reception of the war neurotic by his neighbors, employers, and others upon his arriving in America, leaving the army, and once more returning to his former civilian surroundings. This viewpoint really had two aspects: first, the reaction of the people to the war neurotics,—what they thought of them, whether they were sympathetic or hostile to the individuals—in short, the lay-

[8] For the most part these are cases not referred elsewhere. Those referred either to the U. S. Public Health Service or the Federal Board were likewise advised to see the officials of the Red Cross and obtain their aid in making out their papers.

[9] Refers to men not desiring compensation, but rather wanting to know how to convert their insurance to endowment policies, etc.

[10] This discussion is based upon data furnished by the men studied in this follow-up and upon the material contained in clippings from newspapers furnished by a clipping bureau.

man's conception of *shell shock;*[11] second, the problem of the war neurotic and his reception by society upon his return, the personal problem of the veteran once more back home and facing in a greatly different mood conditions of life which a year or two before were entirely normal to him as a personality and to which his nervous system had at that time been adapted, but which now presented numerous difficulties of adjustment.

To the layman the term *shell shock* connoted the war, with all its gruesome and ugly aspects. One must admit that the term is picturesque and apt. Weight was lent to the current notion by the use of the term *shell shock* as an official diagnosis in the British Royal Army Medical Corps. The tendency of the lay public to use the term seemed bound to outlast official decision to the contrary. The returning troops aided in the spread of the term, and too much anxiety about uprooting it seemed likely to be taken as another phase of officialdom's effort to minimize the doughboy's hardships at the front. Friends and relatives of boys who were in the lines (and this included almost every one in the country) believed that exploding shells and the horror of battle were capable of causing insanity and might often lead to nervousness, weakness, and eccentricity. The average American was sympathetic with the war neurotic and yet at the same time regarded him with something of the fear of the unknown.

There are many notions current among the laity as to what constitutes *shell shock.* The term has a horrifying turn to it. "The very name itself has within it a good deal of the essence of mob-psychology; in another age we should have had the same mob fear of it that now invests such things as insanity, syphilis, cancer, leprosy."[12] Shell shock is associated with queerness, with twitchings, forgetfulness, eccentricity, and the like. This conception has been fostered by the numerous returned war neurotics who have paraded

[11] The lay term for war neurosis which will probably always maintain its vogue is shell shock.
[12] Southard, E. E.: Shattuck Lecture, 1918, p. 64.

their symptoms before a guileless and sympathetic audience. As one lieutenant, a former patient of Base Hospital 117, said in the summer of 1919, "When I first came back, shortly after the Armistice, they made quite a lot of me. I was 'some show.'"

It would be well for the men if the lay conception of shell shock ended here. But unfortunately it did not. It ran on to the weirdest fantasy of insanity. For instance, a veteran arrested for cutting off a girl's braid was given publicity as a case of shell shock. His crime was of course a manifestation of a long-recognized symptom of degenerative insanity. This misconception of shell shock as related to insanity worked out often as a great difficulty for the men in finding employment. As before mentioned, the term *shell shock* was used upon discharge papers. One employer upon seeing the magic words said, "I'd like to reemploy you, but I'm afraid you'd get to breaking things and hugging the girls, etc."[13] Many employers refused to reemploy men—to say nothing of employing them for the first time—upon whose discharge there was any indication of shell shock or war neurosis.

Unfortunately, ignorance of shell shock was not only limited to the ordinary citizen. A query devised in connection with the problem of finding employment for these war neurotics was sent to the governors of the various states asking whether their states had any special organization which could be made to include in its work a genuine interest in these unfortunate soldiers of the A. E. F. Most of the answers were hearty and cooperative. One governor, however, was of a different temper. He replied that he thought there were enough "good-for-nothings" around now and he wanted no more in his state. An American Legion Convention to which his letter was read thought differently about mentally wounded ex-service men. He was badly defeated at the next election.

All in all, the sociological study of shell shock (in 1919-

[13] Quoted from a letter received from one of the Base Hospital 117 patients.

20) deals largely with misconceptions and unintelligence, both on the part of the soldier and of the agencies caring for him, and of his friends and associates. These difficulties have since been met in part by educational movements. Physicians who were in France have discussed the war neurosis problem and lectured about it. Thus, knowledge was spread about the nature and prognosis of shell shock. Ignorance of the nature of shell shock was further met by civic, state, and federal efforts; these last directed toward meeting the important practical problems, such as the compensation-issue and other medico-legal aspects of the question, as well as toward the care and disposition of the cases. Neuropsychiatric clinics were organized and developed throughout the country. Welfare organizations likewise aided in providing skilled medical service. On all sides the war neurotics were met by organized effort to prevent them from becoming a serious social problem. So that although it was at one time regarded with uncertainty and dread, the neurosis problem was soon brought under control and relegated to its proper place in the reconstruction schema.

CHAPTER VII

THE CONDITION OF THESE WAR NEUROTICS SHORTLY AFTER THEIR RETURN TO AMERICA

1. DESCRIPTION OF THESE DATA AND HOW THEY ARE TO BE SUMMARIZED

The scientific purpose of the study made in 1919-20 was a desire to see what would happen to a typical group of *bona fide* war neurosis cases upon their return to civilian life in America. Basically it was a search for tendency data concerning the war neurotic's readaptation to the conditions of civilian life. Though adequate clinical conclusions for a medical definition of war neurosis or its aftermath could not be drawn from these data, because they are social rather than medical in bias, they nevertheless furnish certain practical insights into the problem of neurosis which may prove of value in directing attitudes toward the problems and difficulties which confronted the war neurotic in his attempts at readaptation.

The point of view to be used in organizing the data for purposes of summary is entirely a practical one. The former patients of the hospital will be classified according to the type of civilian readjustment they have made and the extent to which they are able to be self-supporting. This is a practical point of view, similar to that underlying the military classifications used by the army in France as definitive of the man's future army usefulness at the time of his discharge from the hospital. The problem is to find out how well or how poorly these men are getting along in civilian life; whether they are working or not, or how much, if they are; whether ill or well, etc.; and to attempt to relate

these facts to such data as we have about them individually and as a group.

As a matter of fact, neuroticism seems to be best defined in terms of the total situation—the patient and his environment. Especially is this important in those cases where the persistence of the symptoms depends so largely upon environmental factors of the patient's life. A war neurotic who shortly after his discharge tries his old work in a machine shop and "goes to pieces," and who later leaves the city, works on a farm, and gets rid of his symptoms, would be considered finally for the purpose of this exposition as cured. Many of the men of the Base Hospital 117 group give just such a history upon returning to America. The prognosis in their cases is that a return to their old work in the near future would bring on a recurrence of their former troubles. Yet, judged from this more inclusive social viewpoint the men are now cured and are listed below in our classification as "normal."

This point of view is similar to the one usually taken regarding tuberculosis. A patient, no matter how severe his condition, is placed if possible in a suitable environment. After a while, if the change is a good one, his symptoms recede. He may perhaps return to his old occupation in this new environment. His tuberculous condition may still be latent, but from every practical standpoint of his social status he is cured.

In discussing the war neurotic the dual fact of personality and environment must be considered, for, as Southard[1] well stated: ". . . . . not only must the patient be refitted to his entourage, but also not seldom the entourage to a returned shell-shocker." So likewise in discussing the readaptation of the Base Hospital 117 group in 1919-20 and also in a later chapter for the 1924-25 follow-up group, we will use categories in terms of social status and ability to work and be self-supporting, as the following discussion will attempt to bring out.

[1] Shattuck Lecture, 1918, p. 63.

Explanation of the Categories for Present Condition of the War Neurotic Group:

1. "Normal:" Back on the Job.—The first category to be used in discussing these cases is "Normal." Under this come those men who upon return home went back to work and readjusted themselves to civilian life and have been able to support themselves and their families. Many of them note certain novel tendencies in themselves, such as tendencies to become angry or excited easily, some little nervousness, restlessness, forgetfulness, and occasional slight headaches or dizziness (seldom sufficient to incapacitate them from work) and other like mild neurotic symptoms. A typical answer from this type of man was the following one: "Health excellent with the exception that loud noises, such as a band, a blast, a factory whistle, a passing train, and particularly a thunderstorm, will set my nerves aquiver for periods ranging from five minutes to three hours. Am trying to gradually get control of myself and I think I will." Another wrote: "Any excitement or anything which causes anger leaves me kind of weak. Outside of that I do not notice anything wrong with me." Somewhat in the same vein was this note: "I have not as much patience as I originally had and am inclined to be snappish and say something quick that I regret a week afterwards." Yet the general health of these men is good; they are able to be self-supporting and are normally happy.

2. "Neurotic:" Work Full-time but Nervous.—The second group called "neurotic," consists of those who made practical readjustments to their old way of living, yet continued to suffer from one or more rather severe nervous difficulties. Most of these men were under a physician's care, or else had at least consulted one about their condition. They were able to work fairly well, but their own personal lives were unhappy because of these neurotic troubles. Some of these men were assigned to lighter and easier work in their old places and were very sensitive about their lowered status. One finds among them the residue of symptoms shown in France—occasionally fine tremors and tics, more often speech defects, weakness, insomnia, jumpiness, distressing inability to concentrate, memory disorders, and "spells" of all sorts. One case, that of a man with combined concussion and gas neurosis, working as an express helper, fainted away in a railroad station when a nearby locomotive puffed suddenly. The following are sentences taken at random from the replies of this group: "I make mistakes I ordinarily would not make." "Sometimes I find myself between here and France." "It looks to me as if I had lost some of my sense." One man who was formerly a chauffeur returned to his old position and now finds that when he gets into a crowded part of the city where there are many other vehicles about he loses his head

—so far he has had two accidents, fortunately not serious ones. Another patient returned to his old work as printer. Several dizzy spells at this work interfered with the quality of his product; the last spell led to a serious injury to one of his fingers.[2] A great many minor injuries are reported by men in this group as the result of their nervous condition, and several serious accidents. This group tended also to lose considerable in weight upon working hard, especially during the summer. In all men who carried over symptoms to civilian life there was a marked reaction to changes of weather, especially damp weather, which called out moods and depression, seriously handicapping them. In this "neurotic" group there were many men who upon return home tried their former work in machine shops or factories but could not control themselves and became nervous and tired. As one man put it: "I used to work a pneumatic drill but I cannot any longer; the constancy of action is so much like a machine-gun. I tried my best but could not stick it out. I had a semibreakdown." In the cases of some of the men when gas or ideas of gas were involved, indoor work was difficult. Many of these men, especially during the warm summer months, took positions as salesmen, farmers, sailors, laborers—any position which would give them outdoor work. This change in many cases was the basis of cure, for some later wrote that their new work agreed with them and they were gradually getting back to themselves. With difficulty in standing indoor work came the same inability to remain in noisy places, especially machine shops or factories. Also some men who were in school or college reported that they found it very difficult to concentrate upon their work and that their memories were bad.

3. "Fatigued:" Work about Half-time.—Third comes the group called "fatigued." Most of these men cannot work regularly without suffering and being confined to bed. The symptoms here are ready fatiguability, severe headaches, lack of ambition and depression (general neurasthenic coloring.) Whereas the "neurotic group" are able to work, though with much discomfort, this group can only work on the average above one-half of the time. Some of them are fortunate in having easy jobs or considerate employers and so manage to support themselves after a fashion. In some cases where the men are married, their wives are also working to meet the expenses of living.

4. "Disabled:" No Work.—The fourth group consists of those at this time actually rehospitalized for psychoneurosis or reporting a "nervous breakdown" or some incapacitating medical disease, such as tuberculosis. One would anticipate many physical disorders occurring as an aftermath of the conditions to which the men were exposed in France, and indeed, many of the men have had

[2] This man was referred to Federal Board for Vocational Education and given a course in salesmanship.

some difficulty or other as a result of these experiences. There may also be some men in the "fatigued" group outlined above who have disabilities of an organic nature. A study like the one reported here made by correspondence naturally cannot make adequate clinical differentiations. Intensive neurological and physical examinations of these cases would unquestionably bring to light many interesting clinical facts.

The question might be raised—why include organic conditions in a discussion of neurosis aftermath? It is not suggested, of course, that the tuberculosis or heart trouble is a direct outworking of neurosis; yet it is to the point in considering the relationship of organic conditions to neurosis to recall that an "anxiety" case at the hospital was greatly improved when a tapeworm was removed, and that a splendid young officer with a supposedly hysterical condition diagnosed as astasia-abasia in France turned out to have a spinal cord lesion. Likewise another unfortunate man (never a patient at Base Hospital 117), whose life has been ruined by inadequacy of diagnosis, and who was paraded around at clinics as an interesting example of hysterical gait, proved to have a displaced hip-bone. Southard[3] well makes the point "What needs emphasis is that just because we have concluded that the statistical majority of the cases of the so-called Shell Shock belongs in the division of the neuroses, we should *not feel too cock-sure* that a given case of alleged *Shell Shock appearing* in the war zone or behind it is *necessarily* a case of *neurosis.*"

Likewise, it should be noted that a corollary fact makes this inclusion advisable. Because one of the former patients of Base Hospital 117, who was discharged as a psychoneurotic, is now said to have tuberculosis (only 4 of the cases reached in 1919-20 were so defined and 6 in 1924-25) does not necessarily mean that the neurotic factors are no longer prominent. Quite on the contrary, the principal disabling factor may indeed still be the neurotic rather than the tuberculous elements. In fact, one expert of the Veteran's Bureau who has had considerable experience with this type of patient has stated that: "The tuberculosis patient on discharge from hospital is almost without exception a mental case because of worry over his condition . . . At least four months of training passes before this condition is overcome."[4] If this is true of the ordinary case, how much more significant in the case of the practiced neurotic. Southard[5] has defined another aspect of this problem under the concept of "periorganic" symptoms. A slight wound, not serious in itself, may serve as the focus about which are grouped seriously disabling conditions, for instance, paralysis, contracture, etc. There are so few patients (one per

[3] Shattuck Lecture, 1918, p. 55.
[4] Report U. S. Veterans' Bureau, Washington, U. S. Govt. Printing Office, 1923, p. 934.
[5] Shell Shock, W. M. Leonard, Boston, 1919, p. 873, and elsewhere in the book.

cent) who have reported themselves as disabled from organic disease that their inclusion will be permissible since we have no definite assurance of the insignificance or nonactivity of neurotic factors even in those cases.

5. *"Psychotics."*—Fifth is the psychotic group, including such conditions as dementia precox, psychopathic personality, epilepsy, etc. An interesting commentary of theoretic interest is the infrequency of psychotic outworkings among the former patients of Base Hospital 117 as a group. In the 1919-20 study, only one suicide was reported—this a man of poor stock and make-up, never at the front, who entered the hospital after the Armistice and was evacuated with the diagnosis neurasthenia. Otherwise there were relatively few men (ten, or about 1 per cent) whose condition had changed by 1920 from the psychoneurosis diagnosed at the hospital to a psychosis. By 1925 there were four deaths reported as suicides. Twelve others were definitely psychotic, another fourteen were returned as either "in hospital; parents uncertain of address" or "lost" with a fugue or psychopathic coloring attaching to their disappearance. For instance, one boy enlisted in the navy under his brother's name causing the family considerable trouble when he later deserted. The outside total of possible psychotics was 28 cases, diagnosed psychoneurotic in France or 3.4 per cent of the group. This is striking evidence favoring the psychological conception of war neurosis, for the mere possibility of insanity developing in 830 men over a period of seven years would probably not be less than this total.[6]

2. THE AFTERMATH OF WAR NEUROSIS VIEWED IN RELATION TO CLINICAL HISTORY IN FRANCE

Five headings given above denoting the medico-social condition of the men ("normal," "neurotic," "fatigued," "disabled," and "psychotic") will be used in summarizing the data of the first follow-up. An attempt will be made to indicate the relationship of the condition of the men in 1919-20 to the following facts of their clinical history:

I. Medico-military considerations.
   (a) Military classification.
   (b) Diagnosis in France.
II. Physical and mental considerations.

[6] "Few physicians are aware that one person in ten in this state (New York) who reaches adult life is admitted to a mental hospital before he dies, or that the number of beds in public hospitals for the insane in this country equals those occupied by all other sick persons combined." Salmon, T. W.: Mind and Medicine, New York, Columbia Univ. Press, 1924, pp. 4-5. The Mental Hygiene Bulletin, January, 1926, p. 4, gives the probability of insane hospital admission for school and college students as "about 4 per cent" "at some period in their lives."

(a) Age at time of hospitalization.
(b) Personal and family history separately and combined prior to hospitalization.

III. Social status in relation to present condition.
(a) Prewar occupation.
(b) Educational attainment.

IV. Present condition of the group as a whole related to their condition at the time of discharge from Base Hospital 117.

1. Medico-Military Considerations

(a) Military Classification.—The official designations used for patients leaving a military hospital in the A. E. F. were the following:

Class A—Returned to full duty.
Class B—Returned to duty behind the lines for four months; thereafter to full duty.
Class C—Returned permanently to duty behind the lines.
Class D—Returned to the United States.
"T" —Transferred to another hospital.

In viewing the present civilian status of these men in relation to their military classification in France, when discharged from Base Hospital 117, several significant considerations arise. First of all, military classification was a practical estimate of future army usefulness. It took into consideration such matters as health, strength, and endurance. Obviously these are factors which would be of significance in both army and civilian life. Therefore, if the classifications were adequately made, then some positive correlation should exist between them and the present condition of the men. Second, it should likewise be recognized that the ability of a man to return to the front calls upon different factors in him than would be called forth in his attempt to get back, for example, to clerking or to farming in civilian life. Military conditions facing the man in France

were obviously very different from civilian circumstances upon his return home. It is quite possible for army misfits to be normal and even very successful in civil life. Third, the army estimate of the value of a man *before the Armistice,* when further battle service was under consideration, and *after the Armistice,* in a peace-time army, would be based on different factors; the latter would more nearly accord with the criteria of civilian usefulness. Consequently, throughout this discussion figures are given separately for the two groups of cases, those discharged before the Armistice and those discharged after the Armistice. The total figures are likewise used when the group as a whole is under consideration.

The problem of the adequacy of sampling of the follow-up group as compared with the total hospital group from the standpoint of military classification is tabulated elsewhere.[7] It need merely be pointed out here that the selection of cases used in this study is a representative one from the standpoint of military classification.

From Table XIV we are able to get some idea of the actual prognostic value of military classification for readjustment in civilian life. The difference between the two tests of fitness, that of civil life and earning a living, that of army life and withstanding the terrible hardships of battle conditions, are obvious. Yet there are enough similarities to justify an expectation of a positive correlation between the facts. Reviewing the figures, we find in the column for Class A that 68.1 per cent of the patients reached were carrying on in civilian life in 1919-20; i. e., 45.2 per cent were "normal" according to our categories, and 22.9 per cent "neurotic." Of those given Class B, 64.8 per cent were carrying on, of whom 41.8 per cent were "normal" and 23.0 per cent were "neurotic." Of those given Class C, 55.4 per cent were carrying on, 33.3 per cent were "normal" and 22.1 per cent "neurotic." Of those given Class D,

[7] Thesis on file in the Library of Leland Stanford Junior University.

40.3 per cent were carrying on, of whom 21.0 per cent were "normal" and 19.3 per cent were "neurotic." Class T is too small and indefinite a group for drawing inferences; usually the neurotic condition was complicated by other medical considerations.

TABLE XIV

MILITARY CLASSIFICATION OF 1919-20 FOLLOW-UP GROUP IN RELATION TO CONDITION IN 1919-20

	CLASS A		CLASS B		CLASS C		CLASS D		CLASS T		TOTALS	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Normal.....	15	41.7	94	44.9	55	32.2	2	18.2	5	50.0	171	39.0
	70	46.1	22	32.8	19	37.3	10	21.7	3	100.0	124	38.7
	85	45.2	116	41.8	74	33.3	12	21.0	8	61.5	295	38.9
Neurotic.....	8	22.2	47	22.4	41	23.9	2	18.2			98	22.4
	35	23.0	17	25.0	8	15.7	9	19.6			69	21.5
	43	22.9	64	23.0	49	22.1	11	19.3			167	22.0
Fatigued.....	4	11.1	32	15.1	29	17.0	2	18.2			67	15.3
	28	18.4	13	19.4	12	23.5	11	23.9			64	20.0
	32	17.0	45	16.2	41	18.5	13	22.8			131	17.3
Disabled.....	8	22.2	37	17.6	42	24.6	5	45.5	3	30.0	95	21.7
	19	12.5	16	23.8	10	19.6	15	32.6	0	0	60	18.7
	27	14.3	53	19.1	52	23.4	20	35.1	3	23.1	155	20.4
Psychotic.....	1	2.8			4	2.3			2	20.0	7	1.6
	0	0			2	3.9	1	2.2	0	0	3	0.9
	1	0.5			6	2.7	1	1.8	2	15.4	10	1.3
Totals.....	36	100%	210	100%	171	100%	11	100%	10	100%	438	100%
	152	100%	68	100%	51	100%	46	100%	3	100%	320	100%
	188	100%	278	100%	222	100%	57	100%	13	100%	758	100%

The upper number in each group indicates cases discharged from Base Hospital 117 *before the Armistice*, the second number, cases discharged *after the Armistice*, and the number below the line, total.

The Class B men of before the Armistice are as a group readjusting themselves better to civilian life than the pre-Armistice Class A group. Of course, some of the Class A

group got back to the front again (several were wounded, a few killed in action) others had "relapses" and were returned to Base Hospital 117, whereas, since the war ended so soon, few of the B class patients were used again in battle. There is a corollary fact to this last in that although about one in two of the discharged psychoneuroses cases were sent out before the Armistice as Class B, only three in ten were so classed after the Armistice. The 47 per cent in Class B before the Armistice indicated a general optimism that a short time out of the hospital and back among other soldiers would revive these men as fighting units.

Lastly Table XIV shows (by inspection of the figures in the "Totals" column) that the recoveries or nonrecoveries from war neurosis of the group studied in relation to military classification gives percentages about the same for those discharged before and those discharged after the Armistice. In the two largest groups, i. e., "normal" and "neurotic," the percentages before and after the Armistice are nearly identical (i. e., 39.0 per cent and 38.7 per cent, and 22.4 per cent and 21.5 per cent respectively). That is, the chances that a man discharged in Class A, for instance, would be normal in 1919-20 are about equal for him whether he was discharged before or after the Armistice. In other words the prognostic value of military classification for the group of men discharged from Base Hospital 117 before and after the Armistice is about the same in terms of civilian readjustment.

By way of conclusion it may be said that the data on present condition are a verification of the military classification. If the data were to run otherwise than as they do above, it might reflect seriously upon the categories of potential value used by the hospital personnel. The tendency of the data indicates that the medical staff in France gave a good practical consideration of the make-up and potential value of a soldier before launching him forth with a military classification to the replacement centers for further utilization of his services by the army.

(b) Diagnosis in France in Relation to Present Condition (1919-20.)—Diagnosis in mental disease, especially with the psychoneuroses, is less absolute and clean-cut than in many of the physical diseases. At Base Hospital 117 there were twelve possible diagnoses under the general head of psychoneurosis (excluding malingering and "no disease"). It is obvious that in making a diagnosis among these categories, there would be found considerable overlapping of symptoms and many difficulties in accurately differentiating symptom-groupings. In the following pages are given the list of these diagnoses and the definitions of them written by the Medical Director[8] of Base Hospital 117 shortly after his return from France.

Clinical Groupings Used at Base Hospital 117

1. Neurasthenia.—

". . . a group of cases in which the chief evidence of disease was a very evident and intense condition of fatigue, the chief neurosis element of which was a marked subjective sensation of tiredness . . . In such cases it was possible to demonstrate the presence of a fatigue reaction, which can briefly be described as an overresponse to a minimal stimulus, or rather an overeffect to the resultant of a minimal stimulus . . . The emotional background secondarily produced was that of a state of simple depression with a concomitant factor of irritability." (page 30.)

2. Psychasthenia.—

"The second group which early differentiated themselves were cases in which doubt was a prominent symptom. In such instances there is little evidence of fatigue or none at all after a short period of rest, or, indeed, without it. Such patients were capable of considerable mental and physical effort, but they complained chiefly of doubt, hesitation, and an almost complete incapacity of choice. To this group, not a very large one, the term psychasthenia was given, chiefly because the symptoms correspond accurately to the psychasthenic condition of civilian neuroses." (page 31.)

3. Hypochondriasis.—

"The next group is the third of the consciously produced neuroses and to this the term hypochondriasis was given because it

[8] From an article by Dr. S. I. Schwab, who was largely responsible for the introduction of this classification. Pages given refer to his article The War Neuroses as Physiological Conservations reprinted by The National Committee for Mental Hygiene, New York, 1919, from Arch. Neurol. and Psychiat., 1919, i, 579-635.

so exactly fulfilled the condition on which such a diagnosis would have been made in prewar neuroses . . . Hypochondriasis is perhaps the most perfect type of a defensive neurosis because it touches a fundamental and primitive tendency found among all peoples, that is, the automatic release from duty, responsibility and work in the presence of disability or sickness." (page 33.)

4. Hysteria.—

"Hysteria is then to be considered as a type of war neurosis caused by the mechanism of dissociation, by which functional activity either in its motor, sensory, or psychical capacity is blocked from consciousness and conscious control. If an organ of special sense is involved the dissociation process tends to separate out one or more of its coordinating functions from the control of the complete mechanism. The part or parts in either instance divorced from consciousness can maintain itself in one of three ways. It can cease to act at all; it can act abnormally—that is, in a qualitative sense, or it can hyperact—that is, in a quantitative sense. In other words, there can be paralysis, uncoordinated or perverse forms of action or convulsive-like movement. This same thing is found naturally in the sensory and special sense fields. The dissociation process is most frequently set in activity by a somewhat sudden emotional or physical shock and, if in the latter instance, the precipitating factor is most often the effect of a shell explosion or some type of trauma associated with some degree of violence. The type of reaction in hysteria both in respect to localization and function bears a definite relation to the local effect of the trauma. Blindness is often the result of the acute blinding sensation of an explosion, deafness due to the momentary loss of hearing. For the same reason, sensory disturbances are due to numbing of areas of skin following disturbance of atmosphere pressure in the zone of an exploding shell, etc." (pages 35-36.)

5. Anxiety Neuroses.—

"It is in the anxiety neuroses that the most complete example of psychical dissociation is met with—that is, a dissociation unaccompanied by anatomically expressed loss of function. It has to do with a more general process and reaches down more deeply into personality than the more superficially located mechanism seen in hysteria. . . The subject of an anxiety neurosis must be thought of as an individual in whom the repression faculty is well developed. This may come about either as a personal characteristic, or it may be due to the position of authority due to his military position. Naturally the officer falls most easily into this class, and it is in the officer class that the majority of instances of anxiety neuroses are found. Next would come certain types of the noncommissioned officers, chiefly such as have received their promotions recently, and then soldiers who by virtue of education and the development of higher standards are inclined to react easily

to ethical considerations. While this may be the general type which develops this form of neurosis, there are always found exceptions which apparently do not fit into the conditions as set down. Such exceptions are probably insufficiently studied or understood.

"In the typical case, and for the purposes and necessary limits of this paper only such can be considered, there is present, almost from the beginning, the essential elements of the mechanism of an anxiety neurosis. These are conflict, repression, not only of the memory of the experiences themselves, but also of the expression of the emotional reaction associated with them, and a certain degree of what may be called the ethical point of view in the presence of the antagonism between what is regarded as the right thing to do and the natural innate tendency toward self-preservation. These, of course, form only the basic groundwork of the process, indicating enough of the mechanism to warrant grouping these cases in a class by themselves." (page 37.)

6. Anticipation Neuroses.—

"The anticipation neuroses were so named because they represented neuroses reactions, not to actual experiences in battle, but to the anticipation of such experiences. The neuroses, therefore, acted not as protections against the repetition of events already lived through, but as protection against initially experiencing them. As a whole, they probably were patients who had shown symptoms of the neuroses in training camps at home, but the manifestation of which had not completely developed. On the way over or after they reached the concentration camps in France, the symptoms blossomed out again, and under the spur of immediacy rapidly took on the characteristics of well-defined neurosis pictures. . . . The anticipation neuroses are not war neuroses in the narrow meaning of the term, but it was found necessary to include in a classification and to place in it such cases as had never been at the front, as well as a few patients who developed the attitude of anticipation toward reexperiencing former experiences. They reacted similarly to the group for whom the anticipation neuroses was at first devised." (page 40.)

7. Exhaustion.—

"Exhaustion has its place in a classification of war neuroses because it connotes defense of a chemical or polyglandular kind. These patients came into the hospital in some numbers at first, but with the establishment of the forward area hospitals fewer were seen. They represented a large percentage of the material seen in the triages and a considerable number of those seen in the advanced hospitals. In the earlier months of fighting they were often mistaken for and designated as war neuroses. As forming the foundation on which the neurasthenia type of war neurosis often developed, they deserve some mention here." (page 40.)

8. Effort Syndrome.—

"Very little will be said about the effort syndrome in this place. So much has been written about this condition, and there is still so much controversy on the subject that nothing can be added toward clearing it up from the point of view of its place in a list of war neuroses types. It was common enough in the material at Base Hospital 117 and forms so distinct a picture that it was one of the most easily classified. From the point of view of its defensive quality it is a typical neurosis associated with the exhaustion types, but was a more definite localizing quality. It frequently followed gas poisoning, being the most persistent perhaps of its after effects. Its close association with emotion and the emotional reactions of the cardiac and respiratory functions seem to justify its position among groups of a functional defense system. Clinically, it is too well known to describe here, and it is mentioned because mechanistically considered it ought to have a place in any classification of the neuroses." (page 41.)

9. Timorousness. State of Anxiety.—

"Timorousness, or a state of anxiety, was a term given to a small group of individuals who frankly admitted that they were afraid to face conditions at the front, and deliberately gave way to this fear, refusing to accept or develop any compromise between themselves and what they had to do as soldiers. These are the true and only types of cowards. In them no repression of the kind mentioned here exists. This is not a neurosis, of course, as the whole mechanism is entirely too open and frank. At first sight such cases ought to be dealt with outside of a hospital, but in the case of a soldier the condition was so strange and departed so much from the usual conduct of a soldier that such an individual was not considered normal enough to be handled from the military side alone. They would belong probably in the same class as the conscientious objectors, the difference being in respect to the kind of thing that interfered with their willingness to act the part of a soldier." (page 41.)

10 and *11. Gas and Concussion.—*

"Under gas and concussion were included cases in which the primary symptoms of a concussion or gas experienced were elaborated into the structure of a neurosis by the mechanism of fixation and defense. In the concussion neurosis the headache, vertigo, amnesia, temporary blindness, instead of passing away in a few days, as they normally do, begin after a comparatively free interval to become apparent again, with a definite degree of persistence and exaggeration which had all the characteristics of a definite neurosis. In the gas neuroses the hoarseness, difficulty in breathing, pain in swallowing or talking, pressure sensation in the chest, dyspnea, etc., show exactly the same tendency until there developed a chronic picture of gas poisoning long after the acute

symptoms had any right to be present. In gas, too, the actual pain of a skin burn persisted as a widely spread burning and paresthesia, long after the primary burn had healed, and all trace of it had completely disappeared. The syndrome of both of these types were included, because at times such patients were sent down to the hospital either through a mistake in diagnosis or on account of transportation necessities." (page 42.)

12. Malingering.—

"Malingering is of course not a neurosis and it is included in the classification in order to take care of all possible types of cases. No diagnosis of malingering alone was made, chiefly because this has become largely a military and not a medical question." (page 40.)

13. Psychoneuroses. No Disease Found.—

These were cases in which the neurosis symptoms were gone before the case was diagnosed by the Ward Surgeon.

It must be recognized that the diagnoses given above, which were devised for the psychoneuroses cases at the hospital, were not used with entire uniformity by the medical officers. Hysteria might be given as the diagnosis by one, whereas the same symptoms drew the diagnosis concussion neurosis from another. These variations were chiefly attributable to those officers assigned to the hospital for temporary duty or for training. On the whole, however, the diagnoses were similarly used, for the majority of the cases were diagnosed by a small group of men, the original staff (or others under their supervision), whose notions of the different types of neuroses for the most part coincided. Thus, the great majority of the diagnoses follow the scheme of classification used at the hospital, and this error though it does enter, plays but a minor part.

Our first inquiry into the question of diagnosis and its relation to present condition is in regard to the selection of cases in the follow-up. The selection of cases reached in the follow-up has been shown elsewhere[9] to be on the whole a good sampling of the Base Hospital 117 population from the standpoint of diagnosis.

If we combine for each diagnosis the normal and neurotic groups, that is, the patients of the hospital who were

[9] Thesis referred to previously.

carrying on in civilian life in 1919-20, and compare the various diagnoses on the basis of percentage carrying-on, some interesting data come to the surface. For instance, if we rank the various diagnoses on the basis of the percentage of those reached in 1919-20 who were carrying-on in civilian life we get the figures which are shown in Table XV.

TABLE XV

1. Anxiety Neurosis	75.5%	(N— 61)
2. Anticipation Neurosis	75.0%	(N— 12)
3. Gas Neurosis	73.4%	(N— 15)
4. No Disease	72.5%	(N— 11)
5. Concussion Syndrome	69.5%	(N— 72)
6. Concussion Neurosis	67.8%	(N—174)
7. Exhaustion Neurosis	60.5%	(N— 38)
8. Timorousness	58.8%	(N— 17)
9. Effect Syndrome	56.2%	(N— 16)
10. Hysteria	54.6%	(N—196)
11. Neurasthenia	50.4%	(N—109)
12. Hypochondriasis	47.6%	(N— 21)
13. Psychasthenia	53.3%	(N— 15)

It is rather interesting to note that the typical war neuroses—notably the concussion, gas, and anxiety types—rank very high in percentage of successful readaptation, while the more pronounced constitutional types rank lower. A commentary of no little interest here is that the conclusions offered by these data approach very nearly the prognoses made by the medical staff of the hospital, while the men were still in France, as to the future well-being of various types of these cases. The exhaustion, concussion, and anxiety cases were given the best prognosis; the effort syndrome cases, neurasthenias, psychasthenias, and hypochondriacs the worst. Hysteria was placed in between these groups. These facts are in the most part borne out by the above figures. The fact that the true battle neuroses, the concussion cases, for instance, are readjusting themselves better proportionately than the timorousness, neurasthenia, or hypochondriacal types is interesting, showing as it does how incorrect are the common-sense notions of war neurosis. Those men who developed nervous symp-

toms in the cantonments at home in America are usually viewed with suspicion by ordinary persons and regarded almost as malingers by many pension officers. The facts here indicate that the hypochondriasis, psychasthenia, neurasthenia, and timorousness groups, due perhaps to the long-continued nervous state before the onset of symptoms, often playing upon constitutional susceptibility, are not readjusting themselves nearly so well as the actual concussion cases. In other words, many men who never saw action have a more serious aftermath in symptoms than those who were actually in the thick of it, and were concussed by exploding shells or driven into an anxiety state by the fearful conditions and terrible sights at the front.

Among the hysterias, the majority are having difficulty getting along in civil life, and, though earning their own livings and seemingly carrying on in their work, still they are constantly unhappy because of neurotic residues in the form of headaches, insomnia, jumpiness, speech disorders, and often tics. On the whole, the hysterias retain enough of their old condition to handicap them seriously in their personal lives, though not always directly in their business activities. A little more than one-half of them are able to earn their livings and ask financial aid of no one, but the great majority are nevertheless constantly seeking advice from physicians. The symptoms in France were usually so gross and vivid that one may believe they probably tended to lay stronger habit-foundations than any of the other symptom-groupings. An interesting point in reference to neurosis aftermath applicable to nearly all neurosis types, is derived from a physiological truism which Mott[10] refers to in discussing psychoneurosis: "Consciousness of the existence of an organ or structure interferes with its normal automatic or habitual action." War neurotics, who were sensitive for months to every change in their bodily feelings, who were keenly introspective and

[10] Brit. Med. Jour., 1919, i, 442.

analytic of the existence of the various organs and structures of the body, are guilty of continuing even now this search for symptoms in themselves. And it is rare indeed that this search is unrewarded; for example, anyone can produce a headache by introspection of the contents of the cranium continued over several minutes. These men are slow to recognize the feeling of well being, quick to note any signs of possible ill being. This morbid practice may be the basis of many of their present difficulties.

The effort syndrome cases also tend to be seriously and permanently affected by their symptoms. The great cause for this persistence of symptoms among these patients is that the facilities for treating these men in France were not adequate for the needs. Time and special care, both vital factors in these cases, could not be offered at a hospital where beds were constantly in demand and where there was no room for chronic cases requiring lengthy treatment. The result is that these patients were for the most part sent to light duty in the Service of Supplies. Unfortunately, the officers assigning men to duty at replacement camps did not as a rule consider the mental condition of the men so much as their physical appearance. Many men, not only in this group but in all groups, were sent to duty too soon and probably overworked when they got there.

The group diagnosed as state of anxiety or timorousness show a great number as being permanently affected by their condition in France. The explanation in this case, as in some of those diagnosed hypochondriasis, rests in the make-up of the individuals. These were men who as a group were of inferior intelligence, dull-normals, or even morons. The cure of a neurosis in an intellectually inferior person is usually very difficult.

The men diagnosed as "Psychoneurosis: No Disease Found" were an anomalous group, and generally some other medical diagnosis followed this one. Base Hospital 117 being only for psychoneurosis cases, that diagnosis in

some form had to be given on the patient's discharge slip when transferred to another hospital for treatment. The percentage of successful readjustment among this group represents cures from diseases other than psychoneurosis.

II. Physical and Mental Considerations in Relation to Condition in 1919-20

(a) Age at Time of Hospitalization.—The follow-up group under consideration is a good sampling of the entire group of patients at the hospital in the matter of age.

TABLE XVI

DISTRIBUTION OF CASES WITHIN THE NORMAL, NEUROTIC, FATIGUED, AND DISABLED GROUPS ACCORDING TO AGE

AGE	NORMAL	NEUROTIC	FATIGUED	DISABLED
21 years and younger	58, or 20.5%	33, or 18.2%	21, or 16.8%	24, or 17.1%
22 to 35 years (inclusive)	220, or 77.8%	127, or 78.8%	102, or 81.6%	112, or 80.7%
36 years and older	5, or 1.7%	5, or 3.0%	2, or 1.6%	4, or 2.2%
Total	283, or 100%	165, or 100%	125, or 100%	140, or 100%

TABLE XVII

DISTRIBUTION OF CASES WITHIN EACH AGE-GROUP ACCORDING TO CONDITION IN 1919-20

CONDITION	21 YEARS AND YOUNGER	22 TO 35 YEARS (INCLUSIVE)	36 YEARS AND OLDER
Normal	58, or 42.7%	220, or 39.2%	5, or 31.25%
Neurotic	33, or 24.3%	127, or 22.7%	5, or 31.25%
Fatigued	21, or 15.4%	102, or 18.2%	2, or 12.5 %
Disabled	24, or 17.6%	112, or 19.9%	4, or 25.0 %
Total	136, or 100.0%	561, or 100.0%	16, or 100.0 %

This is shown by the fact that the median age for the follow-up group is 24.46 years (Q=2.320 years) while that for the total hospital population is 24.66 years (Q=2.315 years) and also in view of the similarity of the two age distributions.

Insofar as these data are significant, the factor of age enters but little in relation to the type of social readjustment of the Base Hospital 117 group of war neurotics in 1919-20.[11] The median of the "fatigued" group is a little over one-half a year less than that of the "normal group and the median for the "disabled" group almost one-half a year above the "normal" group median. The median is 24.47 years (Q=2.125 years) for the combined "normal" and "neurotic" groups (that is for those who were carrying on in civilian life in 1919-20) and 24.68 years (Q=2.625 years) for the combined "fatigued" and "disabled" groups (those unable to carry on or invalided). Thus, comparison of medians indicates a slight tendency for younger men to be carrying on better than the older men, but very slight, however. Likewise, when distributions for the groups are studied from the standpoint of dispersion on the basis of

TABLE XVIII

FAMILY AND PERSONAL HISTORIES IN RELATION TO CONDITION[12] IN 1919-20

	F. H.		P. H.		COMBINED F. AND P. H.	
	+	−	+	−	+	−
Normal	127	142	117	151	159	116
Neurotic	84	74	82	74	110	50
Fatigued	69	56	65	59	84	40
Disabled	78	65	77	64	96	45
Totals	358	337	341	348	449	251

TABLE XIX

PERCENTAGES OF EACH GROUP (1919-20) HAVING POSITIVE AND NEGATIVE FAMILY AND PERSONAL HISTORIES

	F. H.		P. H.		COMBINED F. AND P. H.	
	+	−	+	−	+	−
Normal	47.2%	52.8%	43.6%	56.4%	57.8%	42.2%
Neurotic	53.2%	46.8%	52.5%	47.5%	68.8%	31.2%
Fatigued	55.2%	44.8%	52.4%	47.6%	67.8%	32.2%
Disabled	54.5%	45.5%	54.6%	45.4%	68.1%	31.9%
% of Total Group	51.5%	48.5%	49.5%	50.5%	64.1%	35.9%

[11] Tabulations given in thesis referred to previously.

the percentage of men twenty-one years of age and under, and the percentage of men thirty-six years of age and over in the various groupings of present condition, as the accompanying tables (XVI and XVII) show, there is also indication of a slight tendency for the younger men to be readapting themselves better than the older men.

(b) Personal and Family History (Separately and Combined) Prior to Hospitalization Related to Condition in 1919-20.—Often the opinion is expressed that those who were after the war not fully recovered from war neuroses were for the most part men of inferior stock and make-up. In other words, persistence of symptoms is supposed to be related primarily to neuropathic make-up. The accompanying data bear out this opinion somewhat in tendency. In the matter of personal history prior to hospitalization as shown in Table XIX, there are 56.4 per cent of those who are now normal who gave a negative history; 47.5 per cent of the neurotic group and 47.6 per cent of the fatigued group who were negative; and 45.4 per cent of the disabled group. For family history, likewise, the normal group has the highest percentage of negative cases; i. e., 52.8 per cent; the neurotic, 46.8 per cent; fatigued, 44.8 per cent; and disabled, 45.5 per cent. When family and personal history are combined the same tendency is present; for Table XIX also shows that 42.2 per cent of the normal group, 31.2 per cent of the neurotic and of the disabled, and 32.2 per cent of the

TABLE XX

THE RANK-ORDER OF PERCENTAGE OF MEN OF EACH OCCUPATION OF THE 1919-20 FOLLOW-UP GROUP NOW ABLE TO CARRY ON[13]

1.	Clerical	73.7%	(N— 80)
2.	Professional	71.4%	(N— 63)
3.	Trade	62.9%	(N— 54)
4.	Manufacturing	62.2%	(N—209)
5½.	Public Service	53.8%	(N— 13)
5½.	Domestic	53.8%	(N— 13)
7.	Transportation	51.7%	(N— 85)
8.	Agriculture	49.4%	(N— 97)
9.	Mining	42.9%	(N— 14)

[12] Exclusive of Psychotics. Eight cases are too few for comparative purposes.

fatigued group were negative. There is thus a definite tendency for those of good stock and make-up to readapt themselves better to civilian life than those in whom personal or familial taint is found; still, many war neurotics are now disabled who gave a good history, and a number are now carrying on who were of poor stock and make-up. Thus, evidently, according to these data, stock and make-up alone, though significant, do not afford a sufficient basis for the prognosis of civilian readaptation.

Tabulations (given elsewhere[13]) show that on the whole the follow-up group are an adequate sampling of the total hospital group from the standpoints of family stock and personal make-up.

III. Social Status in Relation to Present Condition

(a) Prewar Occupation.—The first question that arises regarding occupation is the adequacy of sampling of the follow-up group when compared with the total hospital service. According to findings given elsewhere,[14] a somewhat greater proportion than the expected quota answered of those engaged in agricultural (15.5 per cent compared to 11.5 per cent) and professional work (10.0 per cent to 7.2 per cent) and the proportion of replies from those engaged in trade (8.6 per cent to 11.1 per cent) and clerical work (12.7 per cent to 15.9 per cent) was slightly less than quota. On the whole, the sample was a representative one, for with the other items used in the U. S. Census, the differences were less than 1 per cent from expectation in terms of the total hospital group.

The significance of the data is conclusively shown in Table XX which gives the rank-order of the percentages of men in various occupations now able to carry on. The ranks are arrived at by adding together the percentages of "normal" and "neurotic" for each occupational group. With the exception of mining (N=14) and domestic and

[13] Thesis, previously cited.
[14] Ibid.

public service (N=13 in both), the groups are all large enough to draw significant comparisons. From these figures it is evident that the clerical and professional groups are making the best readjustment of all the occupational groups. Trade and the mechanical and manufacturing trades come next, and at the bottom are transportation, agriculture, and mining. Lastly it is to be noted that, in general, men from the higher types of occupations, those requiring somewhat more intelligence for performance, are in better shape proportionately than men from some of these occupations demanding less intelligence for successful participation. Occupation and intelligence in relation to psychoneurosis will be discussed more fully in Chapter IX.

(b) Educational Achievement Related to Condition in 1919-20.—The 1919-20 follow-up are a selected sampling of the total hospital service from an educational standpoint. The median for the total hospital group is 8.41 years of schooling, for the follow-up group 8.85 years; there is thus a difference of 0.44 years in the medians. More especially, when the cases are grouped according to the level of educational achievement: primary (including those with no schooling), intermediate (the Grades IV, V, and VI), junior high school (Grades VII, VIII, and IX), senior high school (Grades X, XI, and XII), and college, more variation is noted between the follow-up group and the total hospital group. The latter is larger in the primary and intermediate groups and smaller in the college, senior, and junior high school groups. Thus, those of the lower educational levels were reached in lesser proportion in comparison with the total hospital group than those with high school or college education. It may have been that those with less education could not read or understand the letter and its questionnaire, the method of collecting the data militating against the expected proportion of answers being received from patients of the lower educational strata. However, it should

be added that a considerable number of illiterate or semi-illiterate men had had their blanks filled out for them by other persons—in several cases by their wives, sometimes by a friend or neighbor or by a Red Cross official, while a few were sufficiently impressed by the importance of the blanks to take them to a lawyer to be answered.

From data published elsewhere, in observing the medians for the various groupings of present condition, we have noted that the groups which are now able to carry on in civilian life (the normals and neurotics) have on the average a superiority of from one-half to almost one year of schooling. But central tendency data are less descriptive of the facts here than a measure of dispersion. Tables XXI and XXII give the facts for educational achievement in relation to present condition. The percentages of each category, normal, neurotic, fatigued, etc., are given for the above-defined school divisions: primary (including no schooling), intermediate, junior high school, senior high school and lastly, college. The piling up of cases in Grades VII, VIII and IX accounts for the small difference in medians as contrasted with the differences indicated in the extremes of what Professor Cubberley is wont to describe as the American educational ladder. Inspection of Table XXII brings out striking and very significant facts about the relationship of educational achievement to the ability to readapt oneself to civilian life after a period of existence as a war neurotic. For instance, 50.0 per cent of all the college men heard from were "normal" and carrying on, while but 30.8 per cent of all the men in the primary groups were self-sustaining; and conversely, of all the college men heard from but 7.1 per cent were totally unable to work, while 35.9 per cent of the primary group were disabled and able to do nothing to support themselves. The tendency is still more strikingly brought out if we group together the percentages for each school level of those able to carry on in civilian life (combined normal and neurotic groups). As we ascend the educational ladder from primary grades to college, an increas-

ing proportion of successful readaptations are found. The primary group gives 48.7 per cent as economically independent; the intermediate, 47.8 per cent; junior high school, 54.3 per cent; senior high school, 64.9 per cent and college, 74.3 per cent.

TABLE XXI

EDUCATIONAL ACHIEVEMENT OF 1919-20 FOLLOW-UP GROUP TERMS OF CONDITION

SCHOOL LEVEL	NORMAL	NEUROTIC	FATIGUED	DISABLED	PSYCHOTIC	TOTALS
Primary or Less..	12, or 7.7%	7, or 8.4%	5, or 7.2%	14, or 14.6%	1	39, or 9.5%
Intermediate.....	17, or 10.9%	5, or 6.0%	11, or 15.9%	13, or 13.5%	.....	46, or 11.3%
Junior High School	67, or 42.9%	27, or 32.5%	32, or 46.4%	46, or 47.9%	1	173, or 42.4%
Senior High School	25, or 16.0%	27, or 32.5%	8, or 11.6%	18, or 18.7%	2	80, or 19.6%
College.....	25, or 22.4%	17, or 20.5%	13, or 18.8%	5, or 5.2%	.....	70, or 17.2%
N =.....	156, or 100%	83, or 100%	69, or 100%	96, or 100%	4, or 100%	408, or 100%

There is thus among these war neurotics a demonstrated relationship between the amount of education the men have had and their capacity to reestablish themselves in civilian life. We are not justified in assuming that it is the education in itself that is responsible for this superiority in ability to be self-dependent after a period as a war neurotic. The probability is that superior education as brought out in Chapter V is itself an index of general superiority, and especially of superiority in intelligence.

IV. Comparative Figures for the Present Condition (1919-20) of the Group as a Whole Related to Their Condition at Discharge from Base Hospital 117

It is interesting now to compare the civilian value of this group of men in terms of our categories of readjustment,

with their military worth based upon the hospital's classification. Tendencies regarding these facts may be noted by comparing those classified "A" upon discharge with those now reporting themselves "normal," the "B" class with the "neurotic," "C" class with "fatigued" and "D" and "T" combined with "disabled" and "psychotic" combined. Furthermore the Class A and Class B groups may be combined and compared with the "normal" and "neurotic" figures. These comparisons will give an estimate of the

TABLE XXII

PERCENTAGE AND NUMBER OF CASES OF EACH SCHOOL LEVEL RELATED TO CONDITION IN 1919-20

CONDITION 1919-20	PRIMARY OR LESS	INTER-MEDIATE	JUNIOR HIGH	SENIOR HIGH	COLLEGE	TOTALS
Normal	12, or 30.8%	17, or 36.9%	67, or 38.7%	25, or 31.2%	35, or 50.0%	156, or 38.2%
Neurotic	7, or 17.9%	5, or 10.9%	27, or 15.6%	27, or 33.7%	17, or 24.3%	83, or 20.4%
Fatigued	5, or 12.8%	11, or 23.8%	32, or 18.5%	8, or 10.0%	13, or 18.6%	69, or 16.9%
Disabled	14, or 35.9%	13, or 28.3%	46, or 26.5%	18, or 22.5%	5, or 7.1%	96, or 23.5%
Psychotic	1, or 2.6%	.....	1, or 0.6%	2, or 2.5%	.....	4, or 1.0%
N =	39, or 100%	46, or 100%	173, or 100%	80, or 100%	70, or 100%	408, or 100%

social value of the group of men reached in the follow-up in two different social situations; first, the army at war and during an Armistice, and second, civilian life in America in 1919-20.

The vertical "Totals" column in Table XXIII gives us a summary of the present condition (1919-20) of the group on whom we have data. Sixty-one per cent (60.9 per cent), the combined "normal" and "neurotic" groups of the men located in 1919-20 were self-supporting in civil life or sufficiently strong and well to be on active duty in the army or

to be attending school or college. Of this 61 per cent, there were 39 per cent in the "neurotic" group who were able to support themselves, though they were from a health standpoint by no means well. The remaining 39 per cent in the "fatigued," "disabled" and "psychotic" groups were either in hospitals when last heard from or were having difficulties of various sorts. The "fatigued" group were the only ones of these last mentioned who were able to work at all, and they could answer muster on the average only two or three days a week.

TABLE XXIII

DIRECT COMPARISON OF MILITARY CLASSIFICATION IN FRANCE AND CONDITION IN 1919-20 OF THE FOLLOW-UP GROUP

1 MILITARY CLASS		2 PRESENT CONDITION		3 MILITARY CLASS		4 PRESENT CONDITION	
	36		171		8.2%		39.0%
A=	152	Normal=	124	A=	47.6%	Normal =	38.7%
	188		295		24.8%		38.9%
	210		98		47.9%		22.4%
B=	68	Neurotic=	69	B=	21.0%	Neurotic=	21.5%
	278		167		36.6%		22.0%
	171		67		39.0%		15.3%
C=	51	Fatigued=	64	C=	15.4%	Fatigued=	20.0%
	222		131		29.3%		17.3%
D)	11	Disabled)	102	D)	4.8%	Disabled)	22.3%
T)	46	Psychotic)=	63	T)=	15.4%	Psychotic)=	19.6%
	57		165		9.3%		21.7%

The upper number in each group indicates the cases discharged from Base Hospital 117 *before the Armistice*, the second, cases discharged *after the Armistice*, and the number below the line, the total.

Table XXIII is really a comparison of the military classification of usefulness to an army during the war or after an Armistice of a group of neurotics *as a group* with their civilian value in terms of usefulness to society and to themselves a year or so later after returning home. It is a striking fact to be gathered from columns 3 and 4 (Table XXIII), that whereas there are almost twice as many of the group proportionately who are "normal" and of full usefulness

in civil life as there were who were Class A and presumably of full use to the army, still, when you get the sum of percentages of those of full use (Class A) and of prospective full use (Class B) and compare with it the sum of those "normal" and those "neurotic," the figures are practically identical, (i. e., 61.4 per cent as compared to 60.9 per cent). Or viewed from the opposite angle, there were about the same proportions who were partially or wholly disabled in 1919-20, and drags on society, as there were who were almost or actually useless for active army service when they left the hospital in France.

A rather interesting general conclusion comes from all this; namely, when the civilian status of an unselected group of eight hundred war neurotics returned to civilian life is estimated in 1919-20 with the five categories used here, "normal," "neurotic," etc., and the proportions of each status compared with the estimates of army usefulness (military classification) made in France in 1918, we find that although there is a tendency for a greater proportion to be first-rate citizens (normal) than first-rate front-line material (Class A), still, by and large, the group is as great a weight upon society[15] as it was upon the army in war times in France.

At first sight, for 39.0 per cent of a hospital's service to be disabled in later life would seem to be a very high figure. And, indeed, in the case of an ordinary hospital it would be so. For if, of every 100 adults who were in a hospital for operations and diseases during 1918, two-fifths were still to be disabled, healthy and fit men and women would be at a premium. These figures loom large for the Base Hospital 117 service, but small in terms of the total A. E. F.

[15] In attempted explanation of the serious carry-over of symptoms by the men of the follow-up, it is necessary to include, of course, a consideration of the significance of the pension issue in relation to present condition. Psychoneurotics are liable to be seriously influenced by factors related to government compensation. An estimate of the relationship between the present condition of the former patients of Base Hospital 117 and exaggerated desire for government aid is extremely difficult of definition and beyond the scope of this study. It is unfortunate that funds were not available for the prosecution of the study of so-called "pensionitis" as a research problem. Only a very small proportion of the total governmental appropriations for soldier aftercare so spent would probably have paid rich dividends if practical application of such findings could have been made by the federal agencies dealing with disabled veterans.

cases. The Base Hospital 117 admissions were of two strains; first, more or less "chronic" cases sent from non-psychiatric or general hospitals in France; and second, cases from the advanced neurological hospitals. The former cases were usually inadequately treated in some way or other, with consequent fixation of symptoms. Of the latter we have more definite knowledge. They represent approximately 15 per cent (the severe, resistive cases) of the total neuroses so classified during the St. Mihiel and Argonne fighting. For every one hundred war neurosis cases which developed in the unified American army during the St. Mihiel and Argonne fighting, 15 were sent from the forward area hospitals to Base Hospital 117. If now of those 15, two-fifths are disabled, it means that at least 6 out of every hundred cases developed during this period of fighting were unable to carry on in civil life in 1919-20.[16] It is a fair statement to make that the cases discharged from the forward area hospitals as Class A, and ready to return to the front, which amounted to 85 out of every 100, would be probably much superior in potential civilian well-being to the Class A patients of Base Hospital 117. Therefore since 67 per cent of the "A" cases at Base Hospital 117 are now carrying on in civilian life, it follows, if our premise is adequate, that *at least* two-thirds, or 57 of the 85 admitted to these forward-area hospitals and sent out Class A, would be carrying on in civil life. Our estimate therefore would be that of 100 cases of war neuroses which developed at the front, *at least* 57 of the advanced hospital service, and 9 more of those sent from this service to Base Hospital 117,

[16] There are no figures giving the present condition of the patients treated in the forward area hospitals. A companion study to the one described here ought to be made on the present condition of the patients of the advanced neurological hospitals (the necessary technic for such a study is to be found herein). This study could now be made for about ten thousand dollars. The value of such data in the event of another war might be a considerable saving in money for the government and in the avoidance of immensities of pain, self-abasement, worry, etc., for the soldier victims of war neurosis. It would of course be an excellent check upon the civilian outworkings of the administrative plan for handling these cases outlined in Chapter I. The same procedure of follow-up would be useful for a representative group of psychotics (say the psychoses of Base Hospital 214, A. E. F. service); and likewise for a control group—one of physically wounded or of nonwounded, nonhospitalized soldiers of the A. E. F. The physically wounded group would give a basis for a more vivid and real definition of mental wounds of war. Perhaps it may be shown scientifically that the outworkings, the aftermath, of mental wounds in war are just as much or more of a handicap socially than are physical wounds.

or 66 in all, are now carrying on in civil life. The probability, which may be sustained by future research, is that when the war neuroses were handled by specialists at the front the percentage of cure and of later civilian readjustment is much greater than is found here to be the case for the Base Hospital 117 service, where some of the men were hospitalized elsewhere before admission and where those from the special service at the front were especially severe cases and evacuated to the rear for that reason.

CHAPTER VIII

WHAT THE AMERICAN NATION HAS DONE FOR ITS SHELL-SHOCKED VETERANS SINCE THE ARMISTICE

1. Introductory

When the study reported in Chapter VII had been completed, Dr. Thomas W. Salmon,[1] at that time Medical Director of the National Committee for Mental Hygiene, said while discussing the results that he hoped it would be possible to repeat this follow-up study every five years. For besides the obvious scientific possibilities involved, there would be many social values in the work from the standpoint of the welfare of the men concerned. In the summer of 1923, upon communication with Dr. Salmon and Dr. Frankwood E. Williams, it was agreed that I should repeat the follow-up at the office of the National Committee for Mental Hygiene in New York during the summer of 1924, which was exactly five years after the first study. Generous financial assistance and valuable advice were given by the officers of the National Committee for Mental Hygiene[2] throughout the entire study to be recorded here.

The results of this second follow-up will be given in two chapters. The first will tell of the after-care situation by 1924-25, as it applied to war neurosis cases, describing the work of the various agencies which had been developed to aid these men to readapt themselves to civilian life. The second will give such data as can be gathered from the material obtained by the follow-up in throwing light upon the

[1] Now Professor of Psychiatry, College of Physicians and Surgeons, Columbia University.

[2] I am especially indebted to Dr. Frankwood E. Williams, Medical Director, to Dr. Clarence J. D'Alton and Mr. Paul O. Komora, Executive Assistants, to Miss Edith M. Furbush, Statistician, and to Miss Dorothy E. Morrison, Librarian, all of the National Committee for Mental Hygiene.

present condition of the Base Hospital 117 group as a whole in relation to their clinical, personal, and military history. The aftermath of war neurosis in a medico-social sense will again be considered, in the light of conditions six years after the close of the war.

2. Sources of Data for This Study.

The same means that had been employed in 1919-20 to obtain data about the group were again utilized. The most important source of data was through correspondence. A personal letter was sent to each of the patients by *registered mail* with a questionnaire enclosed. The use of registered mail service, while expensive both in clerical time and in stamps, is very effective in a follow-up study of this sort. Not only do you know how many letters are "undelivered" but the cause of nondelivery is given. Moreover, as an index of the strength of suggestion involved it might be noted that about fifty registered replies and several special deliveries were received. Likewise the proportion of replies was greater this time with one registered letter than last time with two nonregistered ones. Furthermore, this time 60 per cent of the men who were reached by these letters, replied, filling out the questionnaire, whereas in the previous study replies were received from only 39 per cent. In answering these letters, the same friendliness that the patients of the hospital had previously displayed was shown again. Many of the men had been helped out in the earlier study and wrote expressing their gratitude.

Second, the various social agencies—notably the American Red Cross and the American Legion—were very cooperative, not only in helping the former patients of Base Hospital 117 when they were in need, but likewise in returning accounts of the condition of the men who were visited by their social workers or other representatives. These accounts also included a statement of what had been done for the men. This served as a very valuable check in proving the adequacy of our data. One hundred and fifty

such personal-contact descriptions of the men from the American Red Cross and Legion showed by their close accord with personal statements received from the men that the data returned by the men were adequate accounts of their actual condition.

The third source of information was through visits to the office of the National Committee for Mental Hygiene made by men in the New York district. About fifty men were seen this way.

Fourth, officer patients were sent a form-letter signed by Dr. Clarence J. D'Alton, of the staff of the National Committee for Mental Hygiene, formerly a Captain at Base Hospital 117.

Lastly, a form-letter was sent to the personnel of Base Hospital 117 over the signature of Dr. D'Alton. Very interesting material was obtained through this means, though but few replies were received.

3. Summary of Procedures Used and of Assistance Rendered in This Follow-Up

By 1924, practically all the men in the follow-up group were aware of their rights regarding federal aid in readjusting themselves to civilian life. Many of them had been cared for by the government agencies and others had claims pending. Since the men were so widely scattered, their needs were referred to division headquarters [3] of the American Red Cross when their statements gave assurance of genuine difficulties. Likewise, the State Commanders of the Americen Legion[4] were notified of any special needs which the men had, such as bonus questions, insurance, or back-pay problem. These intermediary agencies were utilized because it was thought best to have some positive check on a man's condition besides his letter, before bringing his case to the attention of the overburdened federal bu-

[3] At the suggestion of Mr. James L. Fieser, Vice-Chairman, American Red Cross, Washington, D. C., who sent a list of these offices.

[4] List furnished through the courtesy of Mr. John H. Hilkene, Director of Administration, National Headquarters, American Legion, Indianapolis, Ind.

reaus. Funds and time being limited, some of the work connected with helping the men in their problems was not finally concluded till the early winter, when the assistance of my students in a psychology course was utilized to get the thousand or so requests adequately attended to. It is long in a work of this sort before all the cases are adequately cared for. Letters have continued to come in all through the year and still continue to come at the time of writing. During the last follow-up (1919-20) I continued to get requests for affidavits, etc., for more than three years after the original letters were sent out.

The neuropsychiatric clinics were again utilized, though the list[5] prepared in 1919 is sorely in need of revision at the present time. In New York, Doctor Clarence J. D'Alton, of the Staff of the National Committee for Mental Hygiene, again examined and advised these men. Often direct contact was made by him or by Mr. Paul O. Komora of the National Committee for Mental Hygiene with officials of the Veteran's Bureau; Mr. Komora also interviewed men who came to the Office at New York during my absence.

Other inquiries regarding insurance, bonus claims, state aid, etc., were either answered directly or referred to special agencies handling the work. The men were given all the necessary instructions for getting satisfaction in these matters.

Again in our discussion of the 1924 follow-up only cases diagnosed *psychoneurosis* will be considered. While all men, irrespective of diagnosis, were aided when their replies seemed to indicate such need, only neurosis cases are included in our discussion in the next chapter.

Adequate information was received concerning 830 living men diagnosed psychoneurosis in France. In some cases the questionnaire blanks were so inadequately filled out in regard to certain topics as to be useless, and they are not included in the above figures. The data were not complete

[5] D'Alton, C. J.: Out-Patient Clinics for Nervous and Mental Diseases in the United States, published and distributed by the National Committee for Mental Hygiene, New York, 1920.

on all of the men; in some cases the questionnaire was not entirely answered, in other cases the clinical history was not found in Washington. This accounts for the differences in numbers used in the next chapter, in discussing various specific items. Fourteen of the men were described by their relatives as lost. Other information obtained about them often suggested psychopathic background to their disappearance. Forty-four men were reported as dead. Information was received regarding the cause of death of some of them from their relatives or friends as follows:

Died of disease	11
Killed in accidents	8
Killed in action in France	3
Suicides	4
Undetermined	18
	44

In regard to the former patients now living, it must be stated that by 1924-25, the war neurotics, as judged by the replies from this sampling are being adequately cared for by the various agencies authorized for such work. About four-fifths of the men heard from were carrying on in civilian life; some of them, though self-supporting, were still very nervous, however. Those still in need and not being cared for by the Veteran's Bureau were referred to special clinics, to the American Legion, or to the Red Cross. The following is a list of such references:

Referred to:

1. American Red Cross	247
2. American Legion (Bonus questions mostly)	421
3. Neuropsychiatric clinics	104
4. Veterans' Bureau direct	18

Advised about:

1. Insurance	79
2. Bonus (other than those referred to the American Legion)	28

Letters received in reply from these agencies indicated that in the cases of all the men referred to them, vigorous and usually successful effort had been made to find the men and resolve their difficulties. Many of this group of cases

are now being assisted by the agencies listed above and the attempt is being made to resolve their difficulties in so far as they are amenable to solution.

4. What the American People Have Done Since the Armistice for the Former Patients of Base Hospital 117 Reached in This Follow-Up

As we survey the problem of the war neurotic in peacetimes of 1925, the most significant change over conditions in 1919-20 is in the governmental organization for the administration of laws for the relief of the disabled ex-service man. The United States Veterans' Bureau has been created by Congress, engulfing in its scope the War-Risk Insurance Bureau and all those functions of the United States Public Health Service and the Federal Board for Vocational Education which related to the care and rehabilitation of disabled ex-service men. The Veterans' Bureau is thus the sole governmental agency now charged by Congress with full responsibility for the administration of laws for the relief of disabled veterans of the World War. The Director of this Bureau has full authority subject to the general direction of the President of the United States, to administer and enforce the laws relating to compensation, insurance, rehabilitation, and the medical care and treatment of veterans who are entitled to these services.

The Veterans' Bureau continues to handle the insurance policies taken out with the War-Risk Bureau. Very generous terms are made for the conversion by veterans of term (wartime) policies to other forms than the straight life insurance. All such term policies must according to recent legislation be converted soon to one of the permanent policies with level premiums.

The policy of granting compensation for disabilities incurred in service is of course continued. Further than this, the Veterans' Bureau maintains hospitals and dispensaries where all veterans suffering from disabilities due to service

may receive medical care. Also the government continues its policy of making provision for veterans in need of vocational rehabilitation to overcome handicaps due to their service disabilities. Two conditions under which veterans may receive vocational training are offered. Training under Section II of the Act of Congress called the Vocational Rehabilitation Act, is granted to men whose service disabilities are such as to result in economic disadvantage to the veteran and which can be overcome by training. The government makes very generous allowance for travel, tuition, and living expenses. Under Section III of the same act, men who have compensable disabilities, but who have suffered no economic disadvantage as a result, are paid their expenses of tuition and supplies, but not given allowance for maintenance and support. Training may be granted up to a maximum of four years. "The history of rehabilitation activities has been the story of a Nation's generosity to its disabled veterans unsurpassed in any country or in any time. The United States Veterans' Bureau has interpreted the will of Congress and the Nation, as set forth in the Vocational Rehabilitation Act as amended, as extending every reasonable benefit in overcoming his vocational handicap."[6]

A significant aspect of the vocational rehabilitation work is the finding of employment for the men upon completion of their training. Of 22,722 men rehabilitated during the year ending July 1, 1923, only 1412 were unemployed at that time. The Report goes on to state: "This number is considerably less than half the monthly increase in rehabilitation and indicates that employment lags behind rehabilitation less than two weeks. In general, it has been found that more than 50 per cent of the unemployment load remain out of employment through no fault of the bureau, either because the trainee fails to avail himself of the employment service or because sickness or other temporary disability prevents immediate employment."[7]

[6] Report U. S. Veterans' Bureau, Washington, Govt. Printing Office, 1923, p. 392.
[7] Ibid., pp. 432-33.

All the nongovernmental agencies described in Chapter VI, still exist. The development in the work of the American Red Cross and the Legion is remarkable. The great willingness of the personnel and the effective social service technic employed by these agencies are a striking fact in soldier after-care developments during the interval of five years since the previous study of 1919-20. Likewise social service attitudes and methods have been taken over by the Veterans' Bureau with equal effectiveness. One is convinced that these various agencies, federal and social, have been instrumental in making possible a *hearing* before officials of the Veterans' Bureau for every veteran in need of assistance.

The economic and social problem of government after-care and pension agencies are worthy of very serious and careful study. They contain materials for valuable and interesting research. However, the scope of this study cannot include them. The natural question—"How much good has the expenditure on these men done?" is likewise too broad to be answered here. Some of the men have been rehabilitated through federal assistance, others have not improved or have even become worse. It is the individual cases that are brought out always. It would be possible to cite instances of men who had had vocational training over four years and then failed to qualify in their new work, such as the man who had four years of advanced accounting at the Wharton School in Pennsylvania, but upon completion of the work developed a compulsion neurosis after a fortnight as an assistant bookkeeper in a New York department store! On the contrary, there are many men in this group who are now engineers or business experts who owe their improvement from clerks or worse, to the extraordinary generosity of our government. Taking a group of 82 cases given vocational training whose condition was known both in 1919-20 and in 1924-25, it is possible to get some suggestion regarding the effects of vocational training on these men. Sixty-two of this group were carrying

on in civilian life, 30 of whom had been unable to do so in 1919-20. Of the 20 who had had vocational training, not able to carry on in 1924, 6 had been able to support themselves in 1919. The suggestion of these figures is that the vocational work is getting results. Of course, in cases when it fails, often the cause is illness or the lack of cooperation on the part of the men. There are some cases where the vocational work fails because it is poorly organized and badly taught; failures in "placement" training[8] offer many examples of such inefficiency.

It is furthermore not within the scope of this thesis to give an account of the financial aspects of the Government's after-care program, or to criticize or estimate the organization of the federal agencies. But a few facts which come to light in connection with this study are interesting as indicative of the amount of government assistance which has been given. Evidence in regard to this question is obtained in some degree from noting what has been done by the Veterans' Bureau for the group of men reached in this follow-up, the former patients of Base Hospital 117, A. E. F. Of the men reached, at least 162, or 19.5 per cent have had an opportunity to learn a new line of work more consonant with their changed mental and physical condition. The length of time in training varied from six months to four years—from a minimal subsidy of $600 or more in addition to tuition, travel, books, to a maximal one of over $5000, plus tuition, books, travel. Furthermore at least *(at least* is used here and elsewhere because not all of the men specified what the government had done for them) 264 of these men were taken to government hospitals—many more than once. During their time at the hospital they received total disability compensation (at least $80.00 a month). Lastly *at least* 310, or 37.3 per cent, of the men have received compensation from the government for their service disabilities. This has varied from a few dollars a month to over a hun-

[8] The men are placed in shops or factories to be taught the trade by those in charge. Many of the men complained of being used to do the routine work of the place and never given any instruction.

dred dollars a month for men with dependents. When to these series of aids are added free medical care and dental care, transportation to hospitals and clinics and diagnosis by specialists, all the assistance, free loans, food, money-gifts and bonuses for disabled soldiers—the grand total of expenditure by the American people for this group of men since their return to civilian life, according to estimate, would probably be close to three-fourths of a million dollars.

CHAPTER IX

HOW THE SHELL-SHOCKED VETERAN HAS ADJUSTED HIMSELF TO CIVILIAN LIFE

1. DESCRIPTION OF THESE DATA AND HOW THEY ARE TO BE SUMMARIZED

The purposes of the 1924-25 follow-up are the same as those of the 1919-20 study already described in Chapter VII. The categories for present condition used in the previous follow-up will be again employed here, with the same connotations.[1]

2. THE AFTERMATH OF WAR NEUROSIS VIEWED IN RELATION TO CLINICAL HISTORY IN FRANCE AND TO CONDITION IN 1919-20

The five headings defined at length in Chapter VII describing the medico-social condition of the men ("normal," "neurotic," "fatigued," "disabled," and "psychotic") will be used again in summarizing the data of the second follow-up. The attempt will be made to indicate the relationship of the men's condition in 1924-25 to the following facts of their clinical and social history:

I. Medico-military considerations.
   (a) Military classification.
   (b) Diagnosis in France.
II. Physical and mental considerations.
   (a) Age at present.
   (b) Personal and family history (separately and combined prior to hospitalization).
III. Social status in relation to present condition.
   (a) Present occupation.
   (b) Implications regarding intelligence obtained from data on occupations.

[1] Described in Chapter VII.

(c) Educational attainment at present.
(d) Marital status at present.
IV. Present condition of the group as a whole.

I. Medico-Military Considerations

(a) Military Classification.—In Chapter VII has been given the definition of the scheme of military classification used in the A. E. F. military hospitals, and likewise has

TABLE XXIV

MILITARY CLASSIFICATION OF 1924-25 FOLLOW-UP GROUP IN RELATION TO CONDITION IN 1924-25

	CLASS A		CLASS B		CLASS C		CLASS D		CLASS T		TOTALS	
	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%	NO.	%
Normal.....	18	51.4	94	39.0	48	27.9	2	25.0	2	33.3	164	35.5
	59	38.3	23	39.7	19	37.2	16	44.4	0	0.0	117	38.9
	77	40.7	117	39.1	67	30.0	18	40.9	2	25.0	281	36.9
Neurotic.....	11	31.4	113	46.9	79	45.9	3	37.5	2	33.3	208	45.0
	69	44.8	27	46.5	19	37.2	11	30.5	1	50.0	127	42.2
	80	42.3	140	46.8	98	43.9	14	31.8	3	37.5	335	43.9
Fatigued.....	3	8.6	20	8.2	27	15.7	1	12.5	2	33.3	53	11.5
	15	9.8	4	6.8	2	4.0	1	2.8	0	0.0	22	7.3
	18	9.5	24	8.0	29	13.0	2	4.6	2	25.0	75	9.8
Disabled	3	8.6	12	4.9	17	9.9	0	0.0	0	0.0	32	6.9
	6	3.9	3	5.2	9	17.6	8	22.2	1	50.0	27	8.9
	9	4.7	15	5.0	26	11.7	8	18.2	1	12.5	59	7.7
Psychotic.....	0	0.0	2	0.0	1	0.6	2	25.0			5	1.1
	5	3.2	1	1.7	2	4.0	0	0.0			8	2.7
	5	2.6	3	1.0	3	1.4	2	4.6			13	1.7
Totals.....	35	100.0	241	100.0	172	100.0	8	100.0	6	100.0	462	100.0
	154	100.0	58	100.0	51	100.0	36	100.0	2	100.0	301	100.0
	189	100.0	299	100.0	223	100.0	44	100.0	8	100.0	763	100.0

The upper number in each group indicates cases discharged from Base Hospital 117 *before the Armistice*, the second number, cases discharged *after the Armistice*, and the number below the line, total.

been added a discussion of the similarities and differences between military classification (as used before and after the Armistice) and social readaptation. The data on the relationship between military classification and present condition in the 1924-25 follow-up group will be presented in several tables and the conclusions given in order. The selection[2] of cases of the follow-up is in general a good one from the standpoint of military classification.

From Table XXIV we are able to determine the prognostic value of military classification for civilian readjustment in 1924-25. Although in a period of seven years there have been many ups and downs, fortunate events, and also difficulties and discouragements, to change the mood and outlook of these men, we still find a positive correlation between military classification and civilian readjustment, despite all the circumstances that would enter to impair such a relationship. In the column for Class A we now note 83.0 per cent carrying on (40.7 per cent normal, 42.3 per cent neurotic); of Class B, 85.9 per cent are carrying on (39.1 per cent normal, 46.8 per cent neurotic); of Class C, 73.9 per cent are carrying on (30.0 per cent normal, 43.9 per cent neurotic); of Class D 72.7 per cent are carrying on (40.9 per cent normal, 31.8 per cent neurotic). Class B are as a group adjusting themselves better to civilian life than Class A. Though a slightly smaller per cent of Class B are normal, the 4.5 per cent greater number of Class B now neurotic makes the total of men able to carry on (i.e., either normal or neurotic) for Class B 2.9 per cent greater than for Class A. Class C and Class D are smaller in percentage of recoveries than Class A and Class B. So that the hospital estimates of potential military value are again found to be of some significance for the group as a whole as prophecy of future civilian readjustment.

(b) Diagnosis in France in Relation to Present Condition (1924-25).—A discussion of the diagnostic grouping used at

[2] Figures given in thesis cited above.

Base Hospital 117 has been given above.[3] It is again a matter of interest to learn what relationships prevail in

TABLE XXV

RANK-ORDER OF DIAGNOSES ON BASIS OF PER CENT CARRYING-ON* IN CIVILIAN LIFE IN 1924-25

1. Gas Syndrome	100.0%	(N— 7)
2. Exhaustion Neurosis	96.0%	(N— 50)
3. Concussion Neurosis	86.5%	(N—170)
4. Anxiety Neurosis	84.6%	(N— 52)
5. Concussion Syndrome	81.5%	(N— 81)
6. Timorousness	80.0%	(N— 15)
7. Hypochondriasis	77.2%	(N— 22)
8. Neurasthenia	76.8%	(N— 95)
9. Hysteria	76.7%	(N—206)
10. Gas Neurosis	73.6%	(N— 19)
11. No Disease	73.3%	(N— 15)
12. Psychasthenia	70.0%	(N— 10)
13. Anticipation	66.7%	(N— 6)
14. Effort Syndrome	54.4%	(N— 11)

* See Chapter VII for comparative figures of 1919 follow-up group.

1924-25 between the various diagnostic groups and civilian readjustment.

Our first question again is concerned with the selection of cases. Data given elsewhere[4] show that the follow-up group are a good sampling of the total hospital service from the standpoint of diagnosis. For example, the percentage of cases of hyteria in the follow-up is 27.0 per cent and in the total hospital group 27.6 per cent. Concussion neurosis is even more exact, 22.2 per cent of the follow-up and 22.1 per cent of the total hospital group; neurasthenia is 12.5 per cent of the follow-up and 12.1 per cent of the total hospital service; etc., etc.

If we combine for each diagnosis the normal and neurotic groups (that is, the patients who were self-supporting in civilian life in 1924-25) and compare the various diagnoses on the basis of percentage carrying on and percentage unable to carry on (fatigued, disabled, or psychotic) significant features of the data are brought to light. In Table

[3] Chapter VII.
[4] Thesis cited previously.

XXV, the various diagnoses are ranked on the basis of the per cent of those reached in 1924-25 who were carrying on in civilian life.

Again the typical war neuroses, such as gas syndrome, exhaustion, concussion, anxiety, show the best recovery, except for gas neurosis (N=19); whereas the more pronounced constitutional types rank lower, i. e., neurasthenia, psychasthenia, effort syndrome. There are, as one might expect, some significant changes in rank among the 1924-25 group as compared with the 1919-20 group (given in Table XV). Exhaustion neurosis goes from rank 7 to rank 2, with 48 of the 50 men, or 96.0 per cent carrying on. It was surprising in view of the nature of their difficulties in France that they did not rank higher in 1919-20. However, the fact that by now 48 out of 50 of them have been able to return to the position of being self-supporting is a significant proof of diagnostic exactitude in the hospital service.[5] Likewise, that the concussion and anxiety cases have made a good readaptation is a justification of their diagnoses and the general opinion of their condition held by the staff in France. On the other hand, that the effort syndrome group are still in difficulty was well nigh predictable, as functional heart conditions are liable to chronicity. Hypochondriasis, neurasthenia, and psychasthenia, are about at

TABLE XXVI

DISTRIBUTION OF CASES WITHIN THE NORMAL, NEUROTIC, FATIGUED, AND DISABLED GROUPS ACCORDING TO AGE

AGE	NORMAL	NEUROTIC	FATIGUED	DISABLED
27 years and younger	60, or 21.4%	74, or 21.3%	23, or 24.7%	17, or 27.4%
28 to 35 years (inclusive)	185, or 66.1%	243, or 70.0%	56, or 60.2%	35, or 56.3%
36 years and older	35, or 12.5%	30, or 8.7%	14, or 15.1%	10, or 16.3%
Totals	280, or 100.0%	347, or 100.0%	93, or 100.0%	62, or 100.0%

[5] For an interesting discussion of exhaustion and mental disease see Read, C. S.: Military Psychiatry in Peace and War, Lewis, London, 1920, p. 28 et seq. Read believes that exhaustion per se is not a cause of mental disease.

the relative rank predicted by the medical staff of the hospital. The best insight into the meaning of wartime diagnosis is found by comparing the percentage of recovery in 1924-25 from Table XXV with the same facts for 1919-20 in Table XV. At once it is apparent that practically all of the diagnostic groups show a higher percentage of readaptation at the later dates. Gas neurosis, no disease, and effort syndrome have not shown an improvement from a per-

TABLE XXVII

DISTRIBUTION OF CASES WITHIN EACH AGE-GROUP ACCORDING TO CONDITION IN 1924-25

CONDITION	27 YEARS AND YOUNGER	28 TO 35 YEARS (INCLUSIVE)	36 YEARS AND OLDER
Normal	60, or 34.5%	185, or 35.7%	35, or 39.2%
Neurotic	74, or 42.5%	243, or 46.8%	30, or 33.7%
Fatigued	23, or 13.2%	56, or 10.8%	14, or 15.7%
Disabled	17, or 9.8%	35, or 6.7%	10, or 11.3%
Total	174, or 100.0%	519, or 100.0%	89, or 100.0%

centage standpoint. Only anticipation neurosis (which forms a small group of six cases) has shown a decrease in percentage of men with that diagnosis able to carry on.

II. Physical and Mental Considerations in Relation to Condition in 1924-25

(a) Age in 1924-25.—In getting data on age, the men were asked for their ages directly in the questionnaire, instead of using the age at time of hospitalization. The median age at the time of hospitalization would have to be increased by six years to make it comparable with the median for the age of the group reached in the summer of 1924, which is on the average six years after hospitalization. The two medians[6] are then quite similar: 30.66 years for total hospital group, 30.39 years for this follow-up.

Insofar as the factor of age enters to explain readjustment in 1924-25, there does seem to be a tendency for the extremes of the distribution to be less well readapted than

[6] Tabulation given in thesis cited above.

the more central groups. In Table XXVI the figures show that there is a higher percentage of cases in the fatigued and disabled groups at the extreme ages than in the middle ranges. Likewise, in Table XXVII, the percentages of cases having difficulties is higher at the extreme ages than in the middle ranges of ages, i. e., from twenty-eight to

TABLE XXVIII

FAMILY AND PERSONAL HISTORIES IN RELATION TO CONDITION IN 1924-25

	FAMILY HISTORY		PERSONAL HISTORY		COMBINED FAMILY AND PERSONAL HISTORY	
	+	−	+	−	+	−
Normal	128	98	112	105	149	70
Neurotic	141	125	124	139	163	98
Fatigued	36	26	64	58	81	38
Disabled	21	29	24	22	32	15
Totals	326	278	324	324	425	221

TABLE XXIX

PERCENTAGES OF EACH GROUP SHOWING POSITIVE AND NEGATIVE HISTORIES

	FAMILY HISTORY		PERSONAL HISTORY		COMBINED FAMILY AND PERSONAL HISTORY	
	+	−	+	−	+	−
Normal	56.6%	43.4%	51.6%	48.4%	68.0%	32.0%
Neurotic	53.0%	47.0%	47.1%	52.9%	62.4%	37.6%
Fatigued	58.1%	41.9%	52.5%	47.5%	67.9%	32.1%
Disabled	42.0%	58.0%	52.2%	47.8%	68.1%	31.9%
Totals	53.9%	46.1%	50.0%	50.0%	65.8%	34.2%

thirty-five. There is thus a tendency for the extreme age groups, the younger and the older men, to be making poorer readaptations than the men of the middle range of ages.

(b) Family and Personal History (Separately and Combined) Prior to Hospitalization Related to Condition in 1924-25.—The data in Tables XXVIII and XXIX indicate that insofar as they apply to this group previous family

and personal history are not in themselves very significant determiners for present condition. In fact, the group now classed as normal herein give a poorer family history than the disabled and neurotic, a poorer personal history than the neurotics, and a poorer combined personal and family history than the neurotics and fatigued. Of course, not all the cases are included, as the data were missing on some cases from the clinical histories written in France. Furthermore, all data on family and personal history are apt to be unreliable unless collected for specific purposes and under definite directions, which is in many cases not true of these data. But from the data available (which show this group to be a good sampling of the total hospital group from the standpoint here considered) family and personal history are, as previously shown in the 1919-20 study, not very significant in themselves in relation to civilian readaptation. Whereas in the 1919-20 group a slight tendency existed for a better readjustment to be made by those giving negative histories, by 1924 this tendency has decreased almost to insignificance.

Lastly it is a rather interesting commentary on the whole conception of "neuropathic" taint that there are so many men (over four-fifths) now able to carry on in this group of men, and by comparison with the findings in 1919-20, which was about three-fifths, an increasing number and proportion who give a neuropathic (i. e., war neurotic) history.[7] Smith and Pear[8] have expressed very well the looseness and inadequacy of all explanation of nervous or mental disease in terms of so-called "neuropathic" taint. It is noteworthy that this follow-up group shows no very significant relationship between these factors of make-up and the capacity for readaptation to civilian environment.

III. Social Status in Relation to Present Condition

(a) Present Occupation.—Again the adequacy of samp-

[7] Of course, war neurosis with its martial emphasis and coloring may be a special kind of neuropathic taint.
[8] Shell Shock, Manchester Univ. Press, 1917, p. 87 ff.

Table XXX

Relation of Condition (1924-25) to Occupation (1924-25)

	AGRICULTURE	MINING	MANUFACTURING	TRANSPORTATION	TRADE	PUBLIC SERVICE	PROFESSIONAL	DOMESTIC SERVICE	CLERICAL
Normal.....	9, or 13.2%	9, or 69.2%	79, or 42.2%	16, or 37.2%	51, or 50.0%	16, or 51.6%	23, or 63.9%	10, or 45.4%	30, or 47.6%
Neurotic.....	49, or 72.1%	4, or 30.8%	95, or 51.6%	25, or 58.1%	49, or 48.0%	14, or 45.1%	13, or 36.1%	7, or 31.8%	32, or 50.8%
Fatigued.....	10, or 14.7%	.....	10, or 5.4%	2, or 4.7%	2, or 2.0%	1, or 3.2%	.....	5, or 22.7%	1, or 1.6%
Total.....	68, or 100.0%	13, or 100.0%	184, or 100.0%	43, or 100.0%	102, or 100.0%	31, or 100.0%	36, or 100.0%	22, or 100.0%	63, or 100.0%

ling of the follow-up compared to the hospital service is important. It must at once be realized that when only the present occupation is considered, the psychotic and disabled patients will automatically be excluded, for they are not at

TABLE XXXI

RANK-ORDER OF PERCENTAGE OF MEN OF EACH OCCUPATION OF THE 1924-25 FOLLOW-UP GROUP NOW NORMAL

1. Mining	69.2%	(N= 13)
2. Professional	63.9%	(N= 36)
3. Public Service	51.6%	(N= 31)
4. Trade	50.0%	(N=102)
5. Clerical	47.6%	(N= 63)
6. Domestic Service	45.4%	(N= 22)
7. Manufacturing	42.2%	(N=184)
8. Transportation	37.2%	(N= 43)
9. Agriculture	13.2%	(N= 68)

TABLE XXXII

RANK-ORDER OF PERCENTAGE OF MEN OF EACH OCCUPATION OF THE 1924-25 FOLLOW-UP GROUP NOW EITHER NEUROTIC OR FATIGUED

1. Agriculture	86.8%	(N= 68)
2. Transportation	62.8%	(N= 43)
3. Manufacturing	57.8%	(N=184)
4. Domestic Service	54.6%	(N= 22)
5. Clerical	52.4%	(N= 63)
6. Trade	50.0%	(N=102)
7. Public Service	48.4%	(N= 31)
8. Professional	36.1%	(N= 36)
9. Mining	30.8%	(N= 13)

work. Likewise many of those reported at work were doing things described in a way difficult to allocate in accordance with the census categories. Taking the 562 cases which remain in the three groups, and comparing them with the proportions of the total hospital group, we find that the follow-up as a sampling[9] of the total hospital patients is a selected one in the divisions of transportation (7.7 per cent of this follow-up group instead of 13.8 per cent in the total hospital figures), trade (18.1 per cent instead of 11.1 per cent), public service (5.5 per cent instead of 2.0 per cent), clerical work (11.2 per cent instead of 15.9 per cent), though

[9] Tabulation given in thesis cited above.

in the other categories (agriculture, mining, manufacturing, professional), the sampling is a good one.

Tables XXX, XXXI, and XXXII, give the facts of occupation related to present condition in the census categories of general types of work. Again as in the 1919-20 follow-up those engaged in agricultural work and those in transportation are making the poorest readaptation. Mining is too small a group (N=13) to be significant, but those reporting show the highest percentage as normal. The professional group are making the next best readaptation. Then come public service and trade, then manufacturing, transportation, and last of all agriculture. These facts are given in a rank-order presentation in Tables XXXI and XXXII. In Table XXXII the same facts are given for those now reporting themselves as neurotic or fatigued. The percentages are of course the complement of those in Table XXXI, since the two tables include the total number of men now at work in each occupation.

Since our comparison in Tables XXXI and XXXII is practically between the normal and the neurotic group (there are so few cases comparatively in the fatigued group), we also get a suggested estimate of what lines of work a former war neurotic is now able to engage in as a normal healthy person, and in what general kinds of work he is able to carry on though still somewhat more nervous and unhealthy than the ordinary workman in that line of work, so far as we know. This last might suggest an answer to the question: In what lines of work can a psychoneurotic, still suffering from mild but quite annoying symptoms, be able to get along and be independent? The answer is agriculture far above all others, then transportation, clerical work, trade, and the various lines of manufacturing. It is interesting to note in this connection that the histories of some of the men are in line with this. Many who had difficulty working at manufacturing trades in towns or cities have been able to make a fairly successful readaptation in

agricultural work. Some have even so improved as to be entirely self-supporting and gradually losing all their symptoms.

(b) Implications Regarding Intelligence Obtained from Data on Occupations.—The relationship of war psychoneurosis and intelligence can be interpreted indirectly by the use of the Barr Scale[10] of occupations on those now employed among this follow-up group. The Barr Scale gives a great number of occupations, ranging from hobo on one end to man of research or world famous surgeon on the other, graduated in terms of the intelligence of men in these lines of work and divided into 14 groups. The median occupational level on this scale would thus give some insight in-

TABLE XXXIII

LOCATION OF THE MEDIAN OF 1924-25 FOLLOW-UP GROUP ON BARR SCALE
Last 6

Occupations at the
End of Group VI on the Barr Scale
Harness Maker
Street-Car Conductor
Brakeman
Telephone Operator
Forest Ranger
(Median of Follow-Up Group)
Stone-Mason
Beginning of Group VII on the Barr Scale. (First 5 occupations)
Plasterer
Tailor
Book Binder
Carpenter
Plumber

to the median intelligence level. All but 41 of the cases reached in the follow-up who are at work can be placed in the various groups of the Barr Scale. The median occupational status is just at the end of Group VI, or 6/14 of the way toward the top of the scale. Table XXXIII gives the location of the median occupation of the follow-up group and the contiguous occupations of the scale. The median occupational status of the follow-up group is about the same

[10] Published only as a Master's Thesis, Stanford University.

as the occupational index obtained for the average adult males of certain California cities given in a recent study.[11]

The question arises—How typical a group of war psychoneuroses are these men? Educationally they are from the standpoint both of median educational achievement and the grouped dispersion data for the various divisions of the school system a selected group; from the standpoint of military classification and diagnosis, and other similar categories they are representative of war neurosis. But their occupations represent not a true evidence of original intellectual ability, but often a compromise between health and innate capacity. The question—How their present occupation compares with their prewar work—was asked them directly and also checked up by their answers to other questions regarding occupation (salary before and after the war). When even the men who are carrying on (normal or neurotic according to our categories) are studied by comparing present and prewar occupations, the majority are worse off now or have made no advance vocationally over their occupational status before they went to war (39.2 per cent are in worse positions, 21.3 per cent in the same work). Their present jobs thus represent often a compromise between their abilities and ambitions and their state of health. For instance, many of the men are doing odd jobs or day labor who had better positions before the war. When these considerations of occupational handicap are taken into account they probably neutralize any effects of selection on educational grounds, which may enter.

It is apparent from the Barr Scale that insofar as occupation is an index of intelligence this group of war neurotics handicapped as they are by the carry-over of a wartime mental disability, are now as a group in occupations which define them according to the Barr Scale as of about as good intelligence as the average adult males in representative American cities.

[11] Terman, L. M.: Physical and Mental Traits of Gifted Children XXIII Yearbook—Nat. Soc. for Study of Educ., 1924, p. 165.

(c) Educational Achievement Related to Condition in 1924-25.—Again, as in 1919-20, our follow-up group, according to tabulation[12] is a selected sampling of the total hospital service from an educational standpoint. Though the median for the total hospital group is 8.41 years of school attainment and for the follow-up group 8.35 years, when one compares the extremes of the group the selection is seen to be very definite. In the primary group there are but 6.3 per cent of the follow-up compared with 12.5 per cent of the total hospital group. In the intermediate grades (IV, V, VI) there are 14.8 per cent in the follow-up group compared with 18.7 per cent in the total hospital group; while the opposite tendency, a somewhat higher proportionate representation, is found in the high school and college percentages of the follow-up as compared with the total hospital population. The educational status tabulated here represents present, not prewar, educational attainment. Many of the men have been sent to school or college under the vocational training opportunities offered by the government; at least 20 per cent of the men reached have availed themselves of this opportunity. It is possible, as noted previously, that the correspondence method of collecting data has perhaps resulted in overemphasis upon the better educated end of the distribution and an inadequate representation of the lower educational strata.

In comparing medians for the various groupings indicating present condition, it may be noted that there is a general tendency for those groups representing individuals not carrying on in civilian life to have lower median educational attainments. When also Table XXXIV is observed for the extremes of the distribution, the same tendency facts are noted; namely, the groups of patients who are doing best in civilian life tend to be composed of better educated men. And lastly when Table XXXV is studied, the same facts are brought out again. For instance, of all the college men reached, 61.1 per cent were normal and 32.6 per cent were

[12] Given elsewhere, thesis cited above.

Table XXXIV

Educational Achievement of 1924-25 Follow-Up Group in Terms of Condition

SCHOOL LEVEL	NORMAL	NEUROTIC	FATIGUED	DISABLED	PSYCHOTIC	TOTALS
Primary or Less	8, or 3.3%	16, or 5.7%	11, or 13.7%	5, or 11.6%	1, or 11.1%	41, or 6.3%
Intermediate	22, or 9.2%	47, or 16.7%	12, or 15.0%	13, or 30.2%	2, or 22.2%	96, or 14.8%
Junior High School	90, or 37.8%	136, or 48.2%	43, or 53.7%	18, or 41.8%	3, or 33.3%	290, or 44.5%
Senior High School	59, or 24.9%	52, or 18.1%	10, or 12.5%	5, or 11.6%	3, or 33.3%	129, or 19.8%
College	58, or 24.8%	31, or 11.0%	4, or 5.0%	2, or 4.6%	.....	95, or 14.6%
N =	237, or 100%	282, or 100%	80, or 100%	43, or 100%	9, or 100%	651, or 100%

Table XXXV

Percentages and Numbers of Cases of Each School Level Related to Condition in 1924-25

CONDITION IN 1924-25	PRIMARY OR LESS	INTER-MEDIATE	JUNIOR HIGH SCHOOL	SENIOR HIGH SCHOOL	COLLEGE	TOTALS
Normal	8, or 19.5%	22, or 22.9%	90, or 31.0%	59, or 45.7%	58, or 61.1%	237, or 36.4%
Neurotic	16, or 39.0%	47, or 48.9%	136, or 46.9%	52, or 40.4%	31, or 32.6%	282, or 43.3%
Fatigued	11, or 26.9%	12, or 12.5%	43, or 14.8%	10, or 7.7%	4, or 4.2%	80, or 12.3%
Disabled	5, or 12.1%	13, or 13.5%	18, or 6.2%	5, or 3.9%	2, or 2.1%	43, or 6.6%
Psychotic	1, or 2.4%	2, or 2.1%	3, or 1.0%	3, or 2.3%	.....	9, or 1.4%
N =	41, or 100%	96, or 100%	290, or 100%	129, or 100%	95, or 100%	651, or 100%

neurotic; in other words, 93.7 per cent were able to get along in civilian life; of the men of high school education it was 86.1 per cent; in the junior high school group 77.9 per cent were carrying on; in the intermediate 71.8 per cent; in the primary group only 57.5 per cent. Or conversely, of the college men reached 6.3 per cent were unable to support themselves, while 41.1 per cent of the primary group were having difficulties incapacitating them from work.

TABLE XXXVI

MARITAL CONDITION OF 1924-25 FOLLOW-UP GROUP COMPARED WITH CENSUS[13] STATISTICS FOR MALES IN THE UNITED STATES

ALL CLASSES	SINGLE	MARRIED	WIDOWED	DIVORCED
15 to 19	55.6	40.5	3.3	0.4
20 to 24	70.7	28.3	0.5	0.2
25 to 29	39.4	58.7	1.1	0.5
30 to 34	24.1	73.2	1.8	0.7
Follow-up Group[14]	23.3	71.8	0.4	3.1[15]
35 to 44	16.1	79.8	3.0	0.9
45 to 54	12.0	81.0	5.8	1.0
55 to 64	9.8	77.9	11.2	1.0

The conclusion from these data is apparent. As the war neurotic is viewed in civilian life in 1924-25 it is found that the better educated a man is, the more likely he will be to have made a successful and happy readaptation to his civilian environment. Furthermore, if we accept the conclusion arrived at by Yerkes, Prideau, Hollingworth, and other psychologists, that educational attainment is a measure of intelligence, then we are warranted now on the basis of the 1919-20 study and this one five years later, in drawing the conclusion that the effects of the persistence of psychoneurosis are greater in men of lower intelligence levels.

(d) Marital Status at Present.—The questionnaire included a question concerning present marital condition, i. e.,

[13] U. S. Census, 1920, ii, Table III, 390.
[14] Median age follow-up group 30-39 years.
[15] Another 1.4 per cent were "separated."

whether the man was married or not, and also a question as to whether he had been separated or divorced and the date of such an event. Table XXXVI summarizes the answer to these questions. The most notable feature of the marital condition of the follow-up group is the high percentage of divorce among them when compared with the figures of the 1920 census for the whole country. The follow-up group with a total of 3.1 per cent divorced is higher than all the census age groups for males in the country at large. The census does not mention the percentage of men who are separated from their wives. Possibly this group of war neurotics of whom 1.4 per cent state they are separated from their wives also shows a higher percentage in this respect than the population at large.

IV. Present Condition of the Group as a Whole

The intervening five years since 1919-20 have seen the development of a good improvement in the Base Hospital 117 group. Whereas in 1919 the percentage of those reached who were able to carry-on (that is "normal" or "neurotic") was only 60.9 per cent, by 1924-25 this proportion had grown to 80.8 per cent as shown in Table XXXVII. The fatigued group who were able to work but half the time amounted to 9.8 per cent in 1924-25 as compared with 17.3 per cent in 1919-20, and the disabled or psychotic group who were practically unable to work at all, amounted to 9.4 per cent in 1924-25 instead of 21.7 per cent in the previous study.

When further comparison is made of the military value and civilian usefulness of these men, we find 62.7 per cent of good actual or potential military value (Classes A and B) and 80.8 per cent of good civilian usefulness (normal and neurotic). There are a greater proportion (36.9 per cent) who are of full value as civilians (normal) than who were immediate front-line material (23.5 per cent) in France (Class A) but almost equal proportions (38.2 per cent) of potential front-line material (Class B) and somewhat nervous individuals (neurotic) of not quite full civilian effi-

ciency (43.9 per cent). The 1924-25 follow-up group is of much more usefulness to society now than they were to the army at the time of discharge from the hospital. This is a very significant improvement over the condition in 1919-20 of a similar sized group of war neurotics reached at that time who were as much a burden to society as they were to the army in France.

TABLE XXXVII

DIRECT COMPARISON OF MILITARY CLASSIFICATION IN FRANCE AND CONDITION IN 1924-25 OF THE FOLLOW-UP GROUP

1 MILITARY CLASS		2 PRESENT CONDITION		3 MILITARY CLASS		4 PRESENT CONDITION	
	35		164		7.6%		35.5%
A=	154	Normal=	117	A=	51.1%	Normal=	38.9%
	189		281		23.5%		36.9%
	241		208		52.1%		45.0%
B=	58	Neurotic=	127	B=	19.2%	Neurotic=	42.2%
	299		335		39.2%		43.9%
	172		53		37.2%		11.5%
C=	51	Fatigued=	22	C=	16.9%	Fatigued=	7.3%
	223		75		29.3%		9.8%
D)	14	Disabled	37	D)	3.0%	Disabled	8.0%
T)=	38	Psychotic)=	35	T)=	12.7%	Psychotic)=	11.6%
	52		72		7.4%		9.4%

The upper number in each group indicates the cases discharged form Base Hospital 117 before the Armistice, the second, cases discharged after the Armistice, and the number below the line, the total.

These figures show a marked tendency for improvement among the men of the follow-up group as a whole in the interim of five years since the study made in 1919-20. What the causes are that underlie the improvement is a difficult problem for complete analysis. A few that might be cited are the *vix medicatrix* of nature in that length of time, the improvement of business conditions offering more opportunities for civilian reestablishment, and perhaps most essential of all—the various governmental and social agencies focused upon the problem of soldier after-care. At any

rate, whatever the causes of improvement, the hospitalized war neurotics of the A. E. F. have now become more of a social asset in civilian life than they were in 1919-20 and as a group considerably less of a problem to themselves, to their families, and to the American people.

CHAPTER X

THE NATURE OF WAR NEUROSIS AND ITS AFTERMATH

Problems concerned with the aftermath of war neurosis were, of course, unsolvable under the war conditions. In the broadest sense, the most significant definition of the effect of a war neurosis upon an individual's life is best made in terms of the social readjustment or maladjustment which results upon the return of the neurotic soldier to peacetime civilian environment. There were, of course, many prognoses offered, regarding the subsequent history of war neurotics. Southard,[1] for instance, shortly before the Armistice, voiced the optimist's prognosis: "For the present we should concede to nature her *vix medicatrix* and consider that in a period of not over two years after the war experience is over these men should get back to their normal emotivity and their normal equipment of will and character." Salmon[2] in 1917 likewise struck a hopeful note when he stated: "It is the opinion of all those consulted that with the end of the war, most cases, even the most severe, will speedily recover, those who do not being the constitutionally neurotic and patients who have been so badly managed that very unfavorable habit-reactions have developed."

A very striking statement to which the newspapers gave wide circulation, was an announcement[3] that the Armistice had been followed by the immediate cure of 2100 out of 2500 cases of shell shock awaiting transportation to the United States, the Armistice being heralded as the greatest psychotherapeutic incident in history. Observations made at Base

[1] Shattuck Lecture, 1918, p. 58.
[2] Report, op. cit., p. 41.
[3] Jour. Nerv. and Ment. Dis., 1920, lii, 537.

Hospital 117, which at that time contained over 1000 cases and was the only special base hospital for war neurosis in France, were rather at variance with this remarkable statement. There were many men, especially the anxiety cases, who said at the time of the Armistice that "a great weight had been lifted from their shoulders"; that they were "new men." Also the cures of many neurotic symptoms were noticeably easier after the Armistice.[4] But many of what are known as "residual" symptoms were as difficult to remove as ever; and in the neurasthenic and psychasthenic groups, there was little immediate relief, the men so affected dreading the return home because of their broken-down condition. Major Wiesenburg[5] said of the Armistice in relation to the situation at Plattsburg: "It did not cause a very great change and there were practically no spontaneous cures, although our work became much easier and there was a greater incentive for the patient to get well." In short, the Armistice was not a panacea for war neurosis, for although many of the patients showed a marked improvement shortly thereafter, still the condition of the group as a whole and the general behavior of the patients were not greatly changed. In fact, the improvement in the general attitudes of neurotic patients as a result of the Armistice was probably not much greater than that among nonwounded or noncombatant soldiers, or among civilians with loved ones at the front or in the battle areas. The nervous effects of war strain upon civilians is brought out by Redlick,[6] who, studying them during the war, frequently found insomnia among peasants, who had never before known anything of sleeplessness, dreams about war disturbing their sleep. Variations in body temperature and

[4] Hollingworth gives some interesting observations in this connection. Psychology of Functional Neuroses, D. Appleton Co., 1920, Chapter VIII. His study demonstrated a markedly lessened number of subjective symptoms in admissions to the hospital at Plattsburg, New York after the Armistice, as compared with those patients admitted before the Armistice. It is unfortunate that his study could not have been made also upon a control group, for instance, the hospital personnel, or wounded soldiers, or soldiers in camp awaiting transport to France. Such a study would have given useful data for comparison.

[5] Traumatic Neuroses in War and in Peace, Jour. Am. Med. Assn., 1919, lxxiii, 597.

[6] Med. Klin., 1915, xi, 469.

modifications in heart action without apparent adequate cause were also common occurrences among the civilians Redlick studied. If studies of its effects upon civilians were made, the Armistice would probably be accorded a more universal psychotherapeusis, not seemingly much greater immediately among war neurotics than among others under the strain of wartimes. The Armistice and the closing of the war not being the source of solution of the war neurosis problem, we must seek elsewhere for a definition.

First of all, we should recognize that, in all probability, liability to neurotic symptoms is practically universal. What then differentiates this group of men whom we are studying upon their return to civil life from other veterans who have never been afflicted with a neurosis? To answer this question in a fundamental sense would perhaps require a prior understanding of the physiological conditions underlying a neurosis while it is acute and vivid in symptomatic expression. Yet to this latter problem medical science has as yet no final answer. Though hypotheses[7] are available in great numbers, the true pathology[8] of neurosis is still to be discovered. There may be, of course, more than one causal agency involved. One can thus in the present state of knowledge but watch the play of symptoms, without ever being able to go behind the scenes to their neuropathology. Furthermore, not knowing the pathological substratum of the neurosis symptoms, one cannot describe the secondary effects their existence has upon the nervous system, either immediately while they are present or later on in the life of the individual when the major neurotic expressions have been removed. Yet, though a description in terms of neuropathology is lacking, there are still many

[7] For instance a very plausible one in connection with hysterical contractures is to be found in Yealland, L. R.: Hysterical Disorders of Warfare, Macmillan Co., London, 1918. On pages 237-38 he says: "I have attempted . . . to demonstrate the existence of a clinical characteristic which I believe to be interwoven in all cases of hysterical disorders and observed in the contraction of antagonistic groups of muscles." Yealland cites a similar statement in Dr. Charles E. Beevor's Croonion Lectures, 1903.

[8] The difference between the ability to explain the pathology of functional and of organic conditions is apparent; for given such a symptom as an absent knee-jerk, one can often describe the physical conditions underlying it; especially if there are other related symptoms by means of which to localize it in some known part. But how explain a functional blindness except by some hypothesis as yet undemonstrated?

other sources from which insight into the nature of war neurosis and its aftermath are to be obtained.

A primary consideration in discussing the nature of a disease is knowledge of the type of individual who falls victim to it, to see whether any special distinctive quality is present in him. Thus, before going into the problems of war neurosis aftermath, several chapters were given to the attempt to describe the make-up and the social and military status of the patients of Base Hospital 117, who constitute fortunately a typical group of war neurosis cases valuable for such a study. Three general considerations were taken up concerning the type of men who developed a war neurosis: first, their military significance and value; second, their mental and physical make-up; third, social considerations regarding them.

Men from all the principal organizations in the A. E. F. were admitted as patients to Base Hospital 117. As to the rank of patients, there were a significantly greater proportion of officers admitted than men, as much as three officers to one man, if the figures for the number of officers and men in a combat division be accepted as valid comparison. There were also more volunteers in the hospital population than conscripts. The findings of Smith and Pear[9] are relevant here. They state that the "seasoned" veteran was just as liable to develop symptoms as the drafted recruit. During the month preceding the Armistice, however, the number of drafted men admitted to Base Hospital 117 exceeded that for the volunteers; of course at that time conscript units were in the majority at the front. The patients, from their accounts, were at the front on the average about two months. When the various branches of the service are compared for incidence of war neurosis and incidence of men killed in action considerable difference is found. Whereas the infantry, both officers and men, and the aviation officers showed a higher incidence per 1000 of men killed in action; the other branches, the engineers, tank, medical, and signal

[9] Shell Shock, Manchester Univ. Press, 1917, pp. 19-20.

corps gave higher proportions per 1000 cases of war neurosis.

When the ages of the war neurotics were compared with those compiled for the army at large, it was found that there was a marked tendency for men under twenty-one and a slight tendency for men over thirty-five to be represented in the Base Hospital 117 service in greater number than their relative proportions in the army at large. In the moot question of family and personal history, the war neurosis group showed a tendency to a greater proportion of neuropathy than the army at large as represented by a study of a typical overseas regiment. As the difference in proportions of neuropathy in the two groups was small and the proportion of the war neurotics who were not neuropathic was large, there is, however, no adequate justification for defining the causation and occurrence of war neurosis in terms of neuropathic background *alone*. A study of the group further showed that among these war neurotics physical stigmata were rare. As for venereal disease, wounds, gas, drugs, and alcohol, their significance as a cause of war neurosis was unimportant; the part of alcohol as contributory factor, however, cannot be determined exactly.

The birthplaces of the war neurotics give a good picture of the racial background of the A. E. F. and the United States generally. Practically every important nation of the world was represented among the patients. When the states given by the men as their homes are compared with the proportional quotas from those states in the army at large, it is found that the states high in density of population, in urban residents and foreign-born, and low in agricultural workers, give higher proportions of the Base Hospital 117 patients than their proportions of the army would warrant. The most notable occupational fact concerning the war neurotic group is the low proportion of agricultural workers among the patients when compared with the occupations of the general male population and of the A. E. F.

soldiers, and the higher proportion of clerical workers and of those previously engaged in trade. The indoor occupations gave a greater proportion of patients than expected. The proportion of the various religions was probably representative of the army at large, though there are no published data on the religion of American soldiers in this war to use for comparison. The educational status of the group is higher than the army figures for the education of physically wounded men and of all classifications of drafted men. The implication from educational status is such as to warrant the supposition that the Base Hospital 117 patients are *at least* equal in intelligence (since educational achievement is a measure of intelligence) to an unselected group of recruits in the army at large. By way of conclusion it might be said that although certain features of the make-up and military and social background of this group are of possible significance in connection with the nature and causes of war neurosis, still, by and large, no facts stand out in sufficient prominence even to approach in themselves adequate explanations of war neurosis incidence.

After noting that the men who developed neuroses during the war were as a group fairly typical soldiers of the American Army and not some special selection, let us next consider the nature of the disease from which they suffered. The neuroses were a source of interest and study to students of mental life for many years before the war. They have customarily been differentiated from the gross insanities by reference to their *functional,* that is, nonorganic nature, and a great deal of the effort toward description of neurosis has indeed centered in the problem of the difference between organic and functional. This distinction is a purely theoretic one and on the whole has been unprofitable. Medical science in recent years has sought its pathological explanation by use of physical facts; consequently, as the underlying bodily conditions of psychoneurosis were not readily described, medical science in the past has tended to shrug its shoulders, to label the neurosis "functional," and

to let them go at that. More recently, other viewpoints besides the traditional indifference to functional disease have developed.

An interesting suggestion for the definition of neurosis has been given by the late Josiah Royce, who thought that the one character he could find in the term "functional" was the idea "reversible." Professor Royce's conception[10] of the "reversible" quality of neurotic or *functional* conditions would seem to imply that a person having had a neurosis and later cured of it should have no aftermath of symptoms. The neurotic condition is presumably reversed and leaves no pernicious residue or after-effects. A simile might be drawn in the case of the removal of the appendix. To all present knowledge, appendectomy leaves in its train no significant destructive actions due either to the process of removing the appendix or to the later absence of the appendix from the body.

How significant an explanation is the Roycian conception of reversibility for our purposes? The men who were hospitalized in Base Hospital 117 were presumably normal before the war. Whatever their potentialities for mental aberration at the time of their enlistment, they were physically fit to pass the recruiting tests. They should, if the neurosis is a reversible condition, be normal again when the symptoms disappeared and the last evidence of the neurosis has passed. It must also be recognized that the neurosis may be cumulative in coming and similarly pass only gradually. Or, qualifying this, as in cases of the anticipation type, the wearing-down processes may begin slowly and gradually accumulate energy. Suddenly the full expression of the neurosis occurs, manifesting itself in the severe symptoms which incapacitate the man for service. Then in the treatment, first the main symptoms are removed, and then it is as long again before the last vestige of neurosis has gone as the process was in coming.[11]

[10] Southard, E. E.: Shell Shock, W. M. Leonard, 1919, p. 883.

[11] Jones studied 1200 cases for speed of onset and found that in 822 the onset was rapid and in 378 gradual. (Brain, 1919, xlii, 171-213.)

Where the neurotic symptoms appeared suddenly after concussion and were treated shortly thereafter, the condition was perhaps destroyed before there was time for it to leave any deep impress in the individual, psychotherapy and rest serving to smooth out the imprints of the neurosis upon the nervous or other bodily system.[12] As a matter of fact, observation of typical concussion cases, upon return home shows them often to have fully recovered. One soldier, for instance, had been concussed when a shell landed in the branches of a tree directly over his head. He was rendered unconscious for several days. Thereafter he developed a neurosis. In the summer of 1919, he described himself as being in perfect health, and as proof of this mentioned the fact that he had just been accepted for the police force of New York City. Yet on the contrary, there are others of the same category who are not as yet fully recovered or even greatly improved from the effects of their disablement.

How account, moreover, for the numerous cases among the Base Hospital 117 group who shortly after their return to America were either totally unable to carry on, or could work but half-time without becoming tired out or nervous? The size of the group—about 40 per cent of almost 1000 psychoneurosis cases heard from in 1919-20, and 20 per cent of a like number of cases of the 1924-25 follow-up, indicates that probably the condition of being *in neurosis* may involve certain more permanent changes in the nervous system and in other related structures of the body, as, for instance the glandular system,[13] than some are willing to admit.[14] The

[12] A corollary study to the one presented here could be made upon a group of patients who were sent to the Advanced Neurological Hospitals. This question of neurosis aftermath could then be answered suggestively for the mild, acute and quickly relieved cases sent to those hospitals and then returned to the front.

[13] Cannon, W. B.: Bodily change in Pain, Hunger, Fear and Rage, 1918 states: "Intense emotions in war may cause much adrenalism, which, if not worked off, may have injurious effects; similarly with thyroidism."

[14] A warning against the tendency to overdo the term "functional" and ignore these cases is voiced by Salmon who states: "The effect of misguided attitudes, of misdirected sympathy or of misdirected harshness, of frequent tranference from hospital to hospital with consequent varied diagnostic notions regarding them, have been noted in these cases as a serious aftermath. To their initial neurological disability, (of a distinctly recoverable nature) are added such secondary effects as unfavorable habit reactions, stereotypy and fixation of symptoms, the self-pity of the confirmed hysteric, the morbid timidity and anxiety of the neurasthenic and the despair of the hypo-

Roycian concept of reversibility seems therefore not to have universal applicability for neurosis. It is too simple a formula for so complex a phenomenon.

Another incomplete explanation of the nature of neurosis is one which compares the neurotic state with the psychophysiological condition underlying the state of hypnosis. The intimate relationship of suggestion both to the onset and to the removal of neurotic symptoms has given some credence to this viewpoint. There seemed to be two levels of suggestibility in war neurosis cases. First, in the early acute stages of the condition, when, as has been brought out frequently, any incident—for example, a feeling of numbness, plus a suggestion of paralysis or severe injury led to the development of a symptom. At this level the individual may have been in a dazed or barely conscious state, or in the throes of great excitement. Second, there was another level wherein the individual was more clearly conscious and symptoms were suggested. For example, I accompanied a convoy of war neurotics from Paris to La Fauche. When they entrained in the evening one of them had a stutter, when they detrained the next day almost all of them stuttered. The first level cited is more instinctive, with a heavier emotional coating, than the latter level, which is more a resultant of "imperfect organization of knowledge." On the first level, instinctive reaction tendencies which are dammed up are released and overrun, or are directed by suggestion, into neurotic channels or outlets. On the second level, a weakened resistance and heightened suggestibility lead to ready imitation of symptoms observed in others. The latter type of symptom-genesis occurs in the early period of what has been described as the "convalescent conflict," wherein the individual appreciates consciously or unconsciously that his symptoms are his defence against return to the front, and as a result old symptoms are retained and new ones are not unwelcome. The con-

chondriacs. In such hospitals and convalescent homes inactivity and aimless longing weaken will, and the attitude of permanent invalidism quickly replaces that of recovery." (Salmon, T. W.: Report cited above, p. 50.)

trol of the tendencies involved in the "convalescent conflict" will be an important question for research in the event of another war. It is a problem concerned with the morale of the individual soldier.[15]

The significance of basic instinctive protective mechanism (called by Schwab[16] "physiologic conservations") in the genesis and chronicity of neuroses has been extensively discussed. The literature, especially in the American and English accounts, is redundant with such discussions. Read[17] makes a valuable, perhaps crucial, observation in this connection. "It is interesting to note that the psychoneurotic disturbances very soon almost entirely ceased when active warfare stopped .... This only confirms the modern idea that the war neuroses were based upon self-preservation conflicts." Rivers[18] defines the psychoneurosis as "attempts, successful or unsuccessful, to restore the balance between instinctive and controlling forces, attempts to solve the conflict between these warring forces." Dejerine[19] and Gauckler state the problem from another angle: "Overwork and fatigue are no more a cause of neurasthenia than they are of tuberculosis. Without emotion there are no psychoneuroses." Jeliffe and Payne[20] add another suggestive insight in saying: "Emotional stimulation may act like an intoxicant or an infection." Or as Smith and Pear[21] put it: "These disturbances are characterized by instability and exaggeration of emotion rather than impaired reason." The points of view discussed in this paragraph, whether called emotional intoxication or self-preservation responses ("physiological conservations"), though different in specific accounts, become upon analysis very similar in essence. Their differences rest in an overemphasis either upon emotion or upon instinct; for since the relationship of emotional and instinctive responses is obscure, it is difficult to differ-

[15] Jour. Abnorm. Psychol., 1925, xx, 289.
[16] Op. cit., title of paper.
[17] Op. cit., p. 39.
[18] Instinct and the Unconscious, Cambridge Univ. Press, 1920, p. 119.
[19] The Psychoneuroses and Their Treatment by Psychotherapy, 1913, p. 232.
[20] Jour. Nerv. and Ment. Dis., 1919, lix, 52.
[21] Shell Shock, Manchester Univ. Press, 1917, p. 3.

entiate the separate items in the total response of an organism reacting on these fundamental levels of behaviour. For example, Freud emphasizes the sex instinct; Sidis, fear; Adler, self-assertiveness and self-abasement; Trotter, the herd instinct, etc., etc. McDougall's now classic conception, which makes emotion and instinct two aspects of the same thing—the instinctive acts being objective (as flight or concealment), the emotional ones subjective accompaniments of instinctive activity (felt as fear), is perhaps the most plausible account in the literature in connection with the study of the genesis of war neurosis. For a description of the effects of restriction (repression) of instinctive and emotional responses and of the new and abnormal channels of outlet they are forced to take is in large part a description of the nature of neurosis. I[22] have called the neurosis response "perverted or pathologic instinct," implying in instinct its accompanying emotional concomitant.

Cannon in his experiments on the emotional (glandular) life of animals has demonstrated the neurotic response in a crucial manner. A cat is strapped into an apparatus and then frightened by the admission of a dog into the room. (The situation of the imprisoned cat may be thought of as analogous to that of the soldier in the trenches who cannot run away because in the first place desertion means death if apprehended, and in the second place flight from the trenches means only the probability of being "sniped" or killed by a barrage. In both cases the normal instinctive reaction of flight is impeded.) The outlet in the case of the cat may be a paralysis, generalized tremors, or spasms. These responses are characteristic symptoms of neurosis in man.

The features of the coming and going of neurosis, important in connection with the consideration of neurosis aftermath, are the following: first, in developing, the neu-

[22] Anticipation Neurosis and Army Morale, Jour. Abnorm. Psychol., 1925, xx, 292.

rosis may symptomatically take hold of practically any part or function of the body; namely, the senses, muscles, memory, etc. Southard[23] in his book has presented his cases in logical arrangement with a view to their bodily location. His citations include involvements of almost all the important functions of the body.

Second, the neurosis may resist the impulse to its removal before finally leaving the body. For instance, a mutism may recede under treatment and aphonia occur. This latter process of resistance may lead sometimes to that curious condition wherein the physician chases the symptoms (a coarse tremor, for instance) around the patient's body from one part to another; thus he removes it from the right leg, it reappears in the right arm, thence it is transferred to the left arm, the left leg, and so until finally he gives up, or the symptom goes into ghost.

Third, in going the neurosis sometimes leaves imprints upon some bodily system. This fact in regard to war neurotics was one which the civilian practitioner after the war had difficulty in understanding. Some of these neurotic remnants were severe and incapacitating, others mild and merely annoying. The general practitioner in whose care many of these cases came in 1919-20 put the severe cases to bed, used drug therapy (bromides), upon them, and treated the lighter symptoms in various medical modes. The minimal symptoms perhaps were what confused them most —for they had difficulty in explaining how certain heart involvements without appreciable organic basis were motivated, how the rumble of thunder found echo in the individual's nervous system, how some of the minimal residues, the mild neurotic aftermath in the form of fine tremors, jumpiness, nervousness, and tics were to be overcome.

Fourth, there is the fact that the neurotic symptoms become part of the habit-system of the individual. Recurrence of symptoms under fear or other excitement is likely to occur. In fact, the return of symptoms due to the antici-

[23] Shell Shock, W. M. Leonard, Boston, 1920.

pation of return to the front in ostensibly cured cases at Base Hospital 117 exemplified very evidently this habit quality. *Cure of neurosis is therefore always relative.* The neurosis, like all other habits, involves certain positive tendencies toward redevelopment, and on the negative side, it serves to weaken the individual's resistance to preventing its recurrence. Not only do the symptoms return more readily, but there tends to be an enlargement of the scope of entrance or of the variety of stimuli which may be effective in bringing about the return of the old symptoms. Fear of death may have been the original impulse which founded the neurosis habit in some of these soldiers. At the present time, after frequent repetitions or long original continuance of the symptoms, any excitement may bring about the recall of their symptoms. Instances found in numerous cases among the Base Hospital 117 group upon return home illustrated this fact. For example, one boy, at a dance and somewhat excited, suddenly found himself speechless and all atremble. Another, a young lad of twenty, was walking along the street. A child lighted a fire-cracker which exploded right under him. He had to go back to bed for about two weeks. From their remarks about it, the Fourth of July is no day of rejoicing for the war neurotics.

Hollingworth's use of Hamilton's concept of *redintegration* as an explanation of psychoneurosis, is said by its author to be a simplification of the vagaries of the Freudian theory and a solvent for many other notions, for instance, those coming under the head of conditioned reflex. By *redintegration* Hollingworth[24] refers to a reaction wherein part of an original situation calls up the whole original response: a sudden noise, for instance, will recall the entire neurotic display originally manifested by the patient in response to the overwhelming stimuli of the front-line situa-

[24] Psychology of Functional Neuroses, D. Appleton Co., 1920. Tendler (Arch. Psychiol, 1923, lx), studying a group of 50 civilian cases, amplifies Hollingworth's views. He believes the mechanism of psychoneurosis to be in addition to redintegration "the interaction of a drive with an inadequate intelligence mechanism" page 73.

tion of which this noise was an element. Redintegration as an explanation for neurosis aftermath or carry-over, while true in many instances, for example the cases cited in the previous paragraph, is however, an incomplete description. It overlooks the changes in the stimuli capable of recalling the symptoms. It omits the basic problem of psychoneurosis aftermath: the change of the residual symptoms themselves. The variation or fluidity of the neurotic condition, the passing, for example, from an hysterical picture to a neurasthenic one, all the subtle modifications of the original symptoms, for instance, the possible glandular inter-play determining moods and other mental attitudes, remain undescribed and unexplained. It will take much more insight than is involved in Hollingworth's concept to describe the psychopathology of the hospitalized war neurotic. Especially is it difficult to use a general formula in accounting for the changes in the personality of these men which may, indeed, involve many tendencies to reaction on organic levels wherein the simple stimulus-response analysis of reintegration must be modified by taking into account the organic state[25] of the individual. In fact, for any final explanation more intensive study of individual cases over a long period of time seems to be necessary. Also the employment of as many of the technics of physiological chemistry as of psychology and neurology would seem to be indicated for the success of such research. Lacking this type of description it seems possible that a clearer understanding of the condition will come from a simple analysis in terms of habit formation than from any more complicated psychological explanation.

For the neurosis obeys the laws of habit. Once the habit has been founded the individual is subject to its mandates. Any unusual or sudden stimulus (whether real or imagined) calling out emotion, or likewise, any social problem which appears to the individual great and unsurmountable may

[25] For further discussion of organic state and its influence upon behavior see Woodworth, R. S.: Psychology, Holt, 1921, pp. 72-74.

reinaugurate in the individual's body this old habit of war-time. And, of course, where the path has already been worn smooth by numerous repetitions or chronicity of the symptoms, less strain will be necessary for recall. This explains theoretically the reason for the success of the special[26] hospitals for war neurosis at the front. What the forward-area hospitals did was simply to treat these cases shortly after the symptoms became obvious and to remove them before the crystallizing effect of habit could enter and lay the basis for resistiveness or chronicity.

The neurosis seems thus to fall under the category, habit, tends to be overtly removable, but is really subject to ready recall under moderate stimulation in the environment. Also, it is important to recognize that its aftermath may be a vague tendency to ill-being—a hypochondriacal or neurasthenic attitude resulting from a period living as a neurotic. Lastly, the difference between the man who has had a neurosis and the one who has not, is a *qualitative* one, in possessing or not possessing the neurosis-habit or mental attitudes, and also concerns the *quantitative* fact of resistance to its occurrence. As Carver and Dinsley[27] well put it, neurosis is the opposite of ordinary disease, for its occurrence, instead of giving immunity, makes for a greater susceptibility. The person is "sensitized" and more liable to have the condition again.

The implications of this concept of neurosis for education are obvious. Since neurosis is so often a matter of habit formation, then parents and teachers may, through neglect or unwise attitudes towards children, be partially responsible for the genesis of such symptoms in children. The teacher's need for a fundamental understanding of the nature and control of neurotic attitudes and expressions in children of the elementary school and in high school and college students is apparent. By proper guidance and timely counsel potential neurotics may be spared much unhappi-

[26] See Chapter I for details of this organization.
[27] Proc. Roy. Soc. Med., 1919, Sections on Neurol., pp. 36-51.

ness and their families considerable expense and annoyance.

The broad, social definition of war neurosis aftermath for the men of this study may be answered in part, at least, by a description of the civilian readjustment which the men have made since their return to the United States. The problem of determining the type of civilian readaptation made by typical A. E. F. war neurotics was attacked by taking cross-sections of their civilian status in 1919-20 and 1924-25. In each case data were obtained on a group of almost 1000 war neurotics from Base Hospital 117, A. E. F. That the follow-up groups both in 1919-20 and in 1924-25 were a typical group from all the significant characteristics of war neurosis is shown by comparison of their military classification, diagnosis, age, occupation, family and personal history and also median educational achievement with that of the total population of Base Hospital 117.

One of the significant facts regarding the after-history of war neurosis is the relative infrequency of psychotic outworkings among these men as they return to civilian life and during the six years thereafter. Likewise, the typical war neurosis cases, with some battle features in their clinical coloring such as, concussion, anxiety, gas, are (contrary to the ordinary notions of the laymen) making a better readaptation as a group than some of the other types, such as neurasthenia, psychasthenia, in which symptoms often preceded any real front-line experience. Though, on the whole, age is not very significant in readaptation, still in 1924-25 the extreme age groups—the younger men and the older men—were not doing as well as the middle range of ages.

The occupations of the men before the war related to their condition in 1919-20 showed that the men in clerical, professional and trade activities were making the best readjustment. On the other hand, those who had been in agriculture, mining, and transportation work were making the poorest readaptation. Factors of natural endowment probably play into the results in showing that the better edu-

cated are making a better readaptation than the less educated. Men of superior intelligence (as indicated by superior educational achievement) as a group were able to overcome their handicaps and make a better readaptation than the less intelligent. Or in other words, cure of neurosis in individuals of inferior intelligence is more difficult than in average or superior intellects. The 1924-25 data further showed that the types of occupations which prove advantageous in connection with the vocational rehabilitation of war neurotics *not fully recovered* from their war ills are primarily agriculture, then transportation, clerical, trade, and manufacturing work in order.

When we turn from the war neurosis problem at the height of the fighting in France to the later peacetimes at home in America for insight into the significance of war neurosis in later civil life, we naturally encounter a greatly different situation. The impersonality and insignificance of the army gave way for most men upon arrival home to the sympathetic personal influences of relatives and friends, and the glamour and importance of being a disabled veteran. Thrown in with these items of sentiment were the subtle motives underlying the pension issue. It is difficult without comprehensive research to give an unprejudiced estimate of the exact significance of the latter in connection with neurosis aftermath.

The point of view which has dominated this study is the practical one of estimating the social status of this group of A. E. F. war neurotics as a whole upon their return home. Cross-sections of the usefulness to society of these men as a group are given for the years 1919-20 and 1924-25.

The earlier study of 1919-20 was made shortly after the men's return to America. The figures for the value of the men to society at that time were indicative that 40 per cent were unable to make their own way in civilian life. This figure is an estimate based on tendency data. It suggests that the reversibility or speedy curability of war neurosis is

somewhat exaggerated or else that such an explanation is too simple a formula to be true. After the war many men went back to, or met anew, conditions of living much harder than those in the army. If they were married and had families to support, reenlistment was impossible. They returned and went to work at something often more exacting than the army, say in a mine or a machine shop. They worked long hours, were fagged, and unhappy at the end of the day. They had little time for recreation, no Y. M. C. A. or Red Cross with free movies or other entertainment—just the hard struggle of modern industrial life to which they were no longer adjusted, and to which a period as war neurotics had seriously lessened their chances of readaptation. The raw materials for the recall of their neuroses were at hand. Is the explanation for return of symptoms then attributable merely to a low mercenary motive when one of these men, physically unwounded and not insane, applies for government aid? Is the man or the war the primal cause for his need to appeal—or in the last analysis the organization of society itself? The glib summary that persistence of symptoms is due to weakness of will is an evasion. Myers[28] especially calls attention to the mistaken notion of regarding these troubles as "fundamentally due to disordered volition." Beneath the surface of this problem, beneath the symptoms and the possible government aid is the fact that the people of the United States for their self-protection removed many men from environments to which they were adapted (however well and profitably to themselves is the men's own affair) and so changed their lives that for two-fifths of them in 1919-20 and one-fifth of them 1924-25 readaptation is difficult, painful, or impossible. Veterans consequently have been given the right to expect help—even if unwounded—until they can readapt themselves to civilian life. The error in the early after-care attitude towards this type of veteran was in part due to the fact that the job of after-care became often in connection

[28] Lancet, London, 1916, i, 467.

with the neurotics one of thrift and economy, and only incidentally one of seeing that men who were "called to the colors" were made able to reassume their places in civilian life and be happy and valuable units of society. The authorities charged with the care of ex-soldiers were likewise slow to recognize the need for hospital care for the psychoneurotic ex-service men.[29] Regarding the pettifogger attitude towards the mentally wounded of war, Salmon[30] said: "We are quick to forget 99 honest men if we fix our attention too intensely upon the one dishonest man," and "When talking about malingering, let that person among us who never escaped a difficult situation or an inconvenient engagement through a headache or the aggravation of a cold cast the first stone."

The general conclusion from these data is significant. It means that society during peace and with all the agencies of medicine and humanitarianism, had in 1919-20 done no better for these unfortunates who were psychoneurotic patients at a base hospital in the A. E. F., than did the overworked personnel of an army hospital during a war. For about the same percentage were not of full miltiary usefulness in the A. E. F. as were drags upon society in 1919-20. Until recently in fact only the wealthy could have adequate hospital or even medical care for psychoneurosis in the most progressive communities. An explanation for this neglect is the feeling that there is really nothing the matter—except imagination—with these men. Yet so great a medical man as William J. Mayo[31] is quoted as having said "Neurasthenia, psychasthenia, hysteria and allied neuroses are the causes of more human misery than tuberculosis or cancer." The actual extent of the problem in England is given by Sir John Collie,[32] who estimates that more than 200,000 men were discharged from active service with these disorders in the British Army. Moreover, it must be re-

[29] Salmon, T. W.: The Insane Veteran and a Nation's Honor, Am. Legion Weekly, 1921, iii, No. 4, p. 1.
[30] Mental Hygiene, 1922, v 8 and 9.
[31] Salmon, T. W.: Mind and Medicine, Columbia Univ. Press, 1924, p. 8.
[32] Mental Hygiene, 1918, ii, 1-18.

alized that all the vagaries and ramifications of the pension issue are society's product and should not be used cynically to explain away what is a real condition in ill-adapted ex-soldiers.

It is encouraging to note that by 1924-25 the authorities of the U. S. Veterans Bureau and other social organizations dealing with war neurotics, together with improved industrial conditions, and the *vix medicatrix* of the intervening five years, have made an impression upon the problem. At any rate, another typical group of A. E. F. war neurotics showed at that time a smaller percentage of disablement than the group studied five years previous. But even by then no fundamental understanding of the nature and control of neurosis had been arrived at; the same sense of helplessness or resentment, the same questioning of what neurosis is all about and how to overcome it, still characterized the point of view of those attempting to handle the problem. Perhaps future research in psychological medicine will do more than merely postulate vague theories or unworthy motives, and give instead practical suggestions for overcoming the baffling problems of psychoneurosis. These suggestions may be a novelty to ordinary medical therapeusis; being perhaps a sort of supervocational guidance, taking careful account of the three factors outlined by Franz[33]—the functional, the occupational, and the social, with a free scope for the application of scientific and social service technics rather than the mere payment of pensions, or mere neglect and derision, or all the false and weak attitudes of extreme sympathy.

[33] Mental Hygiene, 1919, iii, 33-47.

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